

WASHINGTON COUNTY **LAND USE PLAN**

HD
211
.W33
W3
1980

COASTAL ZONE
INFORMATION CENTER

Washington County Board of Commissioners

WASHINGTON COUNTY COURTHOUSE / P.O. BOX 1007 / PLYMOUTH, NORTH CAROLINA 27962
919/793-5823

August 20, 1980

TO: Coastal Resources Commission

SUBJECT: CAMA Plan Update Submission

The Washington County (Roper/Creswell) Land Use Plan Update had been prepared in accordance with the 1979 revised CAMA Guidelines, and Agency recommendations forwarded by the OCM and public comments have been incorporated into the Plan where applicable.

Those portions of the Plan that relate specifically to Roper and Creswell have been prepared by the Towns which are designated CAMA planning jurisdictions.

Authorization has been made to forward the Plan, complete and ready for local and CRC approval, for your final review.

Mayme W. Davenport

Mrs. Mayme Davenport, Chairperson
Washington County Board of Commissioners

Washington County Board of Commissioners

WASHINGTON COUNTY COURTHOUSE / P.O. BOX 1007 / PLYMOUTH NORTH CAROLINA 27962
919.793.5823

September 17, 1980

Mr. Kenneth Stewart
Office of Coastal Management
P.O. Box 27687
Raleigh, N.C. 27611

Dear Mr. Stewart:

The County of Washington hereby transmits one certified copy of the Washington County Land Use Plan to the Coastal Resources Commission.

On September 17, 1980, the Plan was formally reviewed at a public hearing and adopted by the Board of County Commissioners.

Mayme W. Davenport

Mrs. Mayme W. Davenport, Chairperson
Washington County Board of Commissioners

Carlene E. Edmondson

Ms. Carlene E. Edmondson
Clerk

Town Of Roper

ROPER, NORTH CAROLINA 27970

MAYOR:

E.V. WILKINS

COUNCILMEN:

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A. ERVIN HASSELL

JAMES W. HAMILTON

EUGENE PAILIN

CLERK:

JUANITA H. OLIVER

August 29, 1980

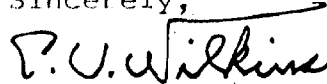
Mr. Kenneth D. Stewart, Director
Office of Coastal Management
P. O. Box 27687
Raleigh, North Carolina 27611

Dear Mr. Stewart:

We are forwarding to you the final draft
of our 1980 Land Use Plan Update in compliance
with the Coastal Area Management Act of 1974.

The final draft has been approved for
transmittal to the Office of Coastal Management.

Sincerely,



E. V. Wilkins
Mayor of Roper



R. Dalton Phelps
Mayor of Creswell

DOCUMENT

WASHINGTON COUNTY LAND USE PLAN UPDATE

1980

PREPARED FOR: WASHINGTON COUNTY BOARD OF COMMISSIONERS

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STERED BY THE OFFICE OF COASTAL ZONE MANAGEMENT, NATIONAL
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INTRODUCTION

INTRODUCTION

Washington County, located on the Roanoke River and Albemarle Sound, is a rural area primarily dependent on agriculture and the manufacturing of wood products for its livelihood. A link between Piedmont North Carolina and the Outer Banks, the County offers much in the way of scenic, recreational, and historic resources.

One of twenty coastal counties regulated under the Coastal Area Management Act, Washington County is responsible for updating the countywide Land Use Plan every five years. Data is to be updated, changes assessed and impact on natural resources examined.

Public participation and local government involvement have been major activities in the 1980 update process. The Land Use Plan is a framework that will guide local leaders as they make decisions affecting development. Private individuals and other levels of government will also use the Plan to guide their land use decisions.

The involvement of these groups in the planning process and their future use of the Plan will hopefully lead to more efficient and economical provision of public services, the protection of natural resources, sound economic development, and the protection of public health and safety.

Extensive efforts have been made to provide a useful and practical tool for Washington County in determining future land use. A tool which can be used, which can become a part of the local government's decision making process.

The Plan is divided into four sections which relate directly to one another. Initially, base data was compiled to reflect the population growth and economic status of the County, inclusive of Roper and Creswell (Plymouth will prepare an update in 1981), and the existing land use regulations in effect. Combined with an assessment of land suitability and existing community facilities, this information provides a basis for future projections of population and land demand.

Compilation of public and local government attitudes concerning local land use issues, in conjunction with base data provided in the first two sections of the Plan, provide the basis for final land use issues, policies, and implementation methods contained in Section Three.

After gathering information and listening attentively, a plan of action began to unfold which suggests how the County should develop in the future. This is where the actual classification of land comes in, which constitutes the final section of the 1980 CAMA Land Use Plan Update.

PRESENT CONDITIONS

PRESENT POPULATION AND ECONOMY

Population

Approximately 44 percent of the County's population is located in the three incorporated towns within the County: 54 percent of the total County population lives in or near Plymouth (figure 1).

Historical population trends reveal that the County has experienced a continuous, steady growth during the past decade. The County's rate of growth has been ahead of that for the surrounding five counties until recently (figure 2). Population figures in 1976 show only Beaufort and Chowan Counties exceeding the growth rate of Washington County with 1980 figures also estimating a significant increase in population for Tyrrell County.

The Town of Plymouth has experienced a healthy growth rate in the past few decades, primarily due to the location of the Weyerhaeuser plant just outside of town in Martin County. Plymouth Township continues to experience the most consistent and significant population increase of the County's Townships (figure 3).

Age distribution in the County shows a trend toward a stable young adult population in the age group from 15 to 24. Significant changes in outmigration of adults in age range of 25-44 are apparent in increased white and nonwhite population figures for 1980 (figure 4).

Figure 1
PERCENTAGE OF POPULATION BY TOWNSHIP
AND MUNICIPALITY

	<u>01970 POPULATION</u>	<u>PERCENTAGE OF COUNTY POPULATION</u>	<u>*1980 POPULATION</u>	<u>PERCENTAGE OF COUNTY POPULATION</u>
Washington County	14,038		15,345	
Lees Mill Twsp.	3,407	24%	3,733	24%
Roper	680 (750) ²	5% (5%)	890	6%
Plymouth Twsp.	7,512	54%	8,213	54%
Plymouth	4,774	34%	5,405	35%
Scuppernong Twsp.	1,733	12%	1,889	12%
Creswell	670 (500) ¹	5% (4%)	530	3%
Skiddersville Twsp.	1,386	10%	1,510	10%

Notes: 1. The 1970 population of 670 for Creswell was incorrect. A more realistic estimate would be 500 for 1970 and 530 for 1980 based on projections for Creswell in the "201" Facilities Plan.

2. The 1970 population of 680 for Roper has been contested by the Town as an underestimate.

SOURCE: o U. S. Census

x 201 Wastewater Facilities Plan

Figure 2

COMPARISON OF POPULATION TRENDS IN SURROUNDING COUNTIES

<u>COUNTY</u>	<u>*1960 POP.</u>	<u>1970 POP.</u>	<u>%CHANGE</u>	<u>o1976 POP.</u>	<u>%CHANGE</u>	<u>x1980 POP.</u>	<u>%CHANGE</u>
Washington	13,488	14,038	+ 4.1	14,900	6.1	15,345	2.9
Martin	27,139	24,730	- 8.9	25,200	1.9	25,354	.6
Beaufort	36,014	35,980	- 0.1	38,800	7.8	40,495	4.4
Chowan	11,729	10,764	- 8.2	11,500	6.8	11,763	2.3
Bertie	24,350	20,528	-15.7	21,000	2.3	21,090	.4
Tyrrell	4,520	3,806	-15.8	3,800	-.15	3,975	4.6
Hyde	5,765	5,571	- 3.4	5,600	.52	5,688	1.6

SOURCE: o Profile Department of Administration - Update - 1978

x NC Department of Administration Division of State Budget & Managment 1979

* US Census 1960-1970

Figure 3

SUMMARY OF POPULATION TRENDS

BY COUNTY TOWNSHIPS

	x1940	1950	% CHANGE FROM '40	1960	% CHANGE FROM '50	1970	% CHANGE FROM '60	1980	% CHANGE FROM '70
Washington County	12,323	13,488	+10%	13,488	0%	14,038	+ 4%	15,345	+ 9%
Lee Mill Twp. Roper	3,229 716	3,435 793	+ 6% +11%	3,444 771	2% -3%	3,407 680 ² (750)	- 1% -12%	3,733 890	+ 9% +30% (+18%)
Plymouth Twp. Plymouth	5,237 2,461	6,294 4,486	+20% +82% ¹	6,948 4,666	+10% + 4%	7,512 4,774	+ 8% + 2%	8,213 5,405	+ 9% +13%
Scuppernon Twp.	2,019	2,244	+11%	1,629	-27%	1,733	+ 6%	1,889	+ 9%
Cherry Creswell	108 459	73 425	-32% - 7%	61 467	-17% +10%	No record 670 ³ (500)	+44%	530	-20% (+ 6%)
Skinnerville Twp.	1,838	1,207	-34%	1,467	+22%	1,386	- 5%	1,510	+ 9%

Notes: 1. 82% population increase for Plymouth from 1940 to 1950 due to annexation.

2. The 1970 population of 680 for Roper has been contested by the Town as an underestimate. The Town's own estimate of 750 population, however, still indicates a slow population decline.

3. The 1970 population of 670 for Creswell was incorrect. A more realistic estimate would be 500 for 1970 and 530 for 1980 based on projections for Creswell in "201" Facilities Plan.

SOURCE: x U. S. Census

o Department of Administration
201 Wastewater Facilities Plan
Bob Snapp

WASHINGTON COUNTY
NORTH CAROLINA

Figure 3A

TOWNSHIPS

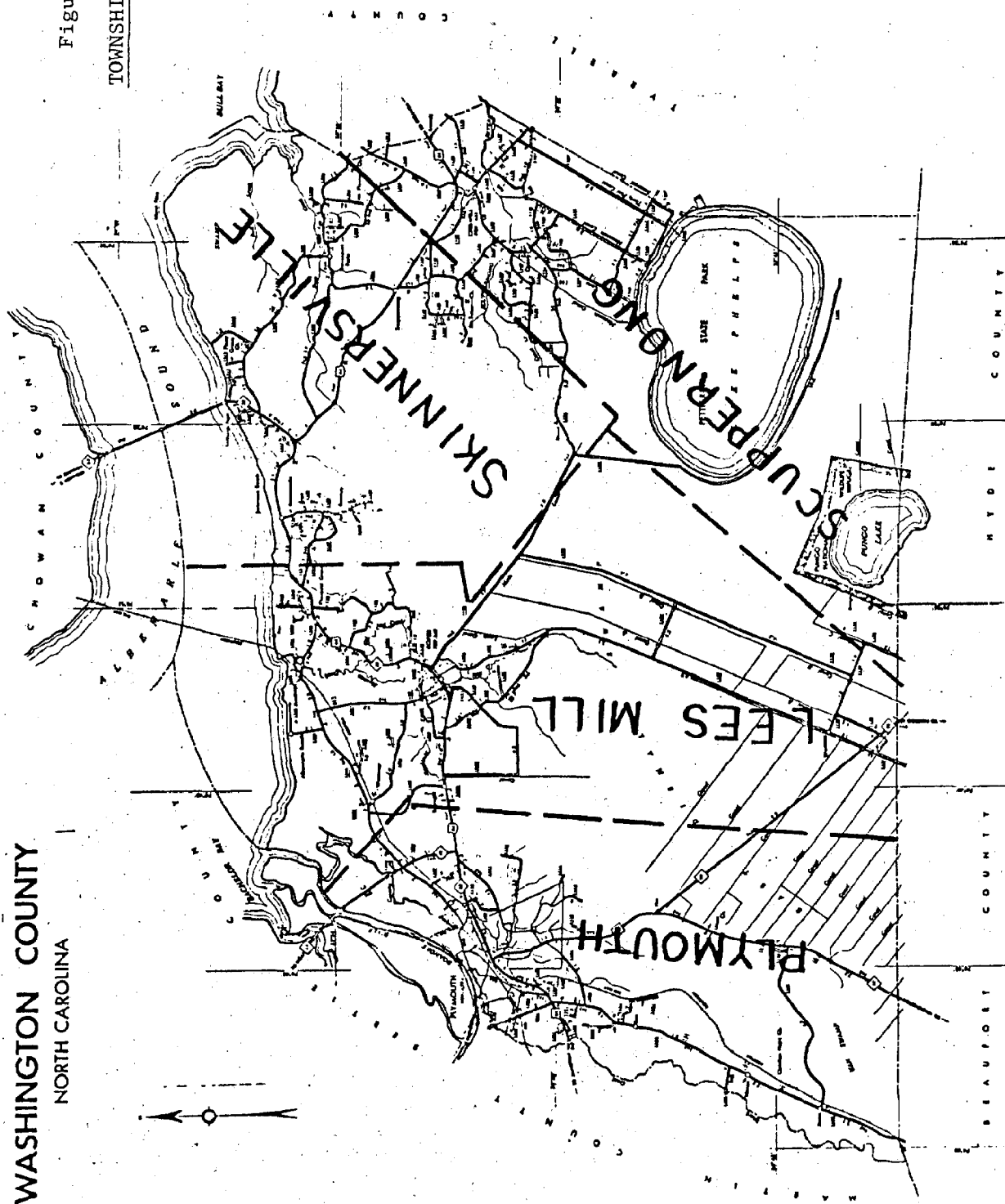


Figure 4

WASHINGTON COUNTY POPULATION
BY AGE AND RACE

<u>WHITE</u>			
<u>AGE GROUP</u>	<u>x1970 POPULATION</u>	<u>o1980 POPULATION</u>	<u>% CHANGE</u>
under 5	662	606	-8%
5-14	1648	1507	-8%
15-24	1285	1492	+16%
25-44	2045	2958	+44%
45-64	1838	1903	+3%
65 over	731	997	+36%

<u>NON WHITE</u>			
<u>AGE GROUP</u>	<u>x1970</u>	<u>o1980</u>	<u>%CHANGE</u>
under 5	705	613	-13%
5-14	1587	1263	-20%
15-24	1168	1267	+ 8%
25-44	1064	1223	+15%
45-64	912	1024	+12%
65 over	384	492	+28%

SOURCE: x Census

o Department of Administration

WASHINGTON COUNTY TOTAL POPULATION

BY AGE

<u>AGE GROUP</u>	<u>x1960 POPULATION</u>	<u>x1970 POPULATION</u>	<u>%CHANGE</u>	<u>o1980 POPULATION</u>	<u>%CHANGE</u>
under 5	1778	1367	-23%	1219	-10%
5-14	3375	3235	- 4%	2770	-14%
15-24	1888	2453	+29%	2759	+12%
25-44	3161	3101	- 1%	4181	+35%
45-64	2380	2750	+16%	2927	+ 6%
65 over	906	1115	+23%	1489	+33%

SOURCE: x Census

o Department of Administration

Seasonal Population

One factor of particular importance to North Carolina Coastal Counties is the impact of seasonal visitors on population projections, local economy and public facilities. These occasional visitors are expected to grow in number, and they will demand the same services as the native residents, with the exception of schools. If properly provided for, these people may become an asset, rather than a drain, on the County's development.

The figures shown on page 11 are estimates due to the unavailability of tourist statistics for Washington County. Very little has changed since the original Land Use Plan was prepared, however due to the ever increasing cost of living some second home owners have been forced to sell to permanent homeowners. No change has taken place in the number of overnight accommodations within the County.

The method used to calculate the figures was to assess the number of overnight accommodations presently available and multiply that total by a reasonable number of persons who might be expected to occupy these units at any given time--In this case the "persons per household" for Washington County from the 1970 Census. A premise was made that tourism in Washington County is based upon the County's proximity to the Dare County beaches.

The summer recreation traffic along Highway 64 is the best indicator to support this. Thus projections of future tourism can be made based upon Washington County's share of the estimated tourist growth in Dare County.

FIGURE 5
ESTIMATED SEASONAL POPULATION

Motel/Hotel Units	60			280
Campsites	20	x	4.66 persons	93
Vacation Cottages (1970)	100		per household	466
	<u>280</u> units			<u>839</u> total
				tourists at any
				one time, 1970.

FIGURE
PROJECTED SEASONAL POPULATION

1.	1970 estimate of tourist population:	839								
2.	1970 estimate of tourists, Dare County:	23,720								
3.	proportion of 1970 count, Washington County to Dare County	1:28 or 4%								
4.	<table><tr><th><u>Tourist Forecast, Dare County</u></th><th><u>Tourist Forecast, Washington County (1:28)</u></th></tr><tr><td>1980 35,106</td><td>1242</td></tr><tr><td>1990 48,481 to 70,000</td><td>1,715 to 2,476</td></tr><tr><td>2000 68,067 to ?</td><td>2,408 to ?</td></tr></table>	<u>Tourist Forecast, Dare County</u>	<u>Tourist Forecast, Washington County (1:28)</u>	1980 35,106	1242	1990 48,481 to 70,000	1,715 to 2,476	2000 68,067 to ?	2,408 to ?	
<u>Tourist Forecast, Dare County</u>	<u>Tourist Forecast, Washington County (1:28)</u>									
1980 35,106	1242									
1990 48,481 to 70,000	1,715 to 2,476									
2000 68,067 to ?	2,408 to ?									

SOURCE: Dare County Data from Stephens Associates, 1974
Washington County Data, DNER estimates, 1975

From the figures shown, any estimate of tourism in Washington County has only represented a small impact on the local economy. A second indicator is travel spending. The higher estimates, however, are possible if growth along the Outer Banks occurs at the rate now experienced in areas such as Myrtle Beach, Virginia Beach or Ocean City.

Roper

Roper, the second largest municipality in the county, is now experiencing growth at a moderate rate. According to the Town's figures, Roper is recovering from a population decline that spans 20 years (figure 3). Although Roper has not experienced a significant change in population due to the absence of a significant economic base and poor soils associated with septic tank failures, upcoming factors may change past trends.

Some growth should result from the increased agricultural activity of corporate farming enterprises such as Tyson Foods and First Colony Farms. Peat mining may add to the growth potential.

The construction of a municipal sewer system (completion date - May 1980) will eliminate the constraints caused by septic tank failures. Private residential construction and subdivision activities have increased because of this project.

Roper's population may also be increased by the location of Mid-East Regional Housing Authority developments within the existing corporate limits. There are currently twenty (20) dwelling units operated by the Housing Authority in Roper. Funding has been approved for the construction of thirty (30) additional units.

Since poor soil conditions will continue to impede construction in the areas around Roper, it can be expected that

most of the population growth in the area will occur within the Town limits. Roper has adequate undeveloped land coupled with water and sewer capacity to accommodate reasonable growth.

Creswell

Creswell's population growth, consistent yet slight (figure 3), seems to be the result of increased agricultural activity. The large scale land clearing operations and agribusiness construction should continue to support a gradual growth rate.

Mid-East Regional Housing Authority developments may also increase Creswell's population. Mid-East operates fifteen (15) units within the Town limits. An additional twenty (20) units are expected to be funded.

Like Roper, Creswell's growth has been restrained by septic tank failures caused by poor soil conditions and flooding. Plans to construct a sewer system and a flood prevention system should eliminate these constraints.

Another factor that will probably result in an increase in the population of Creswell is annexation. As development along the highway corridors leading into Creswell increases, there will be pressure on the Town to extend water, sewer, and other public services to these areas. The Town may want to expand its tax base to compensate for the added cost of such services.

Economy

Agriculture represents the largest segment of the County's economy, showing continued increases in production and market sales. This trend is projected to continue as corporate "super farms" and individual farmers continue the development of previously unusable land for agricultural use.

The number of farms has dropped by 50 percent during the 10-year period between 1960 and 1970, and between 1970 and 1978 from 800 to 350 farms, according to the Agriculture Extension Office. This can be attributed to a decrease in small family farms, due to the consolidation of small farmers into larger farm units and the larger land holdings farmed by a few corporate farms.

During the period of 1960-74, harvested acreage rose 78 percent, reaching 76,716 acres in 1977. The continued increase in production of soybeans and corn (figure 6) supports the potential for future contributions to the economy.

Corn, soybeans, hogs, and lumber lead all other products in dollar sales (these figures are not available for publication). The influx of major hog operations such as Tyson Farms and the subsequent increase and modernization of local operations has influenced these factors as has the tremendous dependence on the production and processing of wood products in and around Washington County.

Manufacturing production in apparel and wood products comprise the second major component of the County's economy (figures 7 & 8).

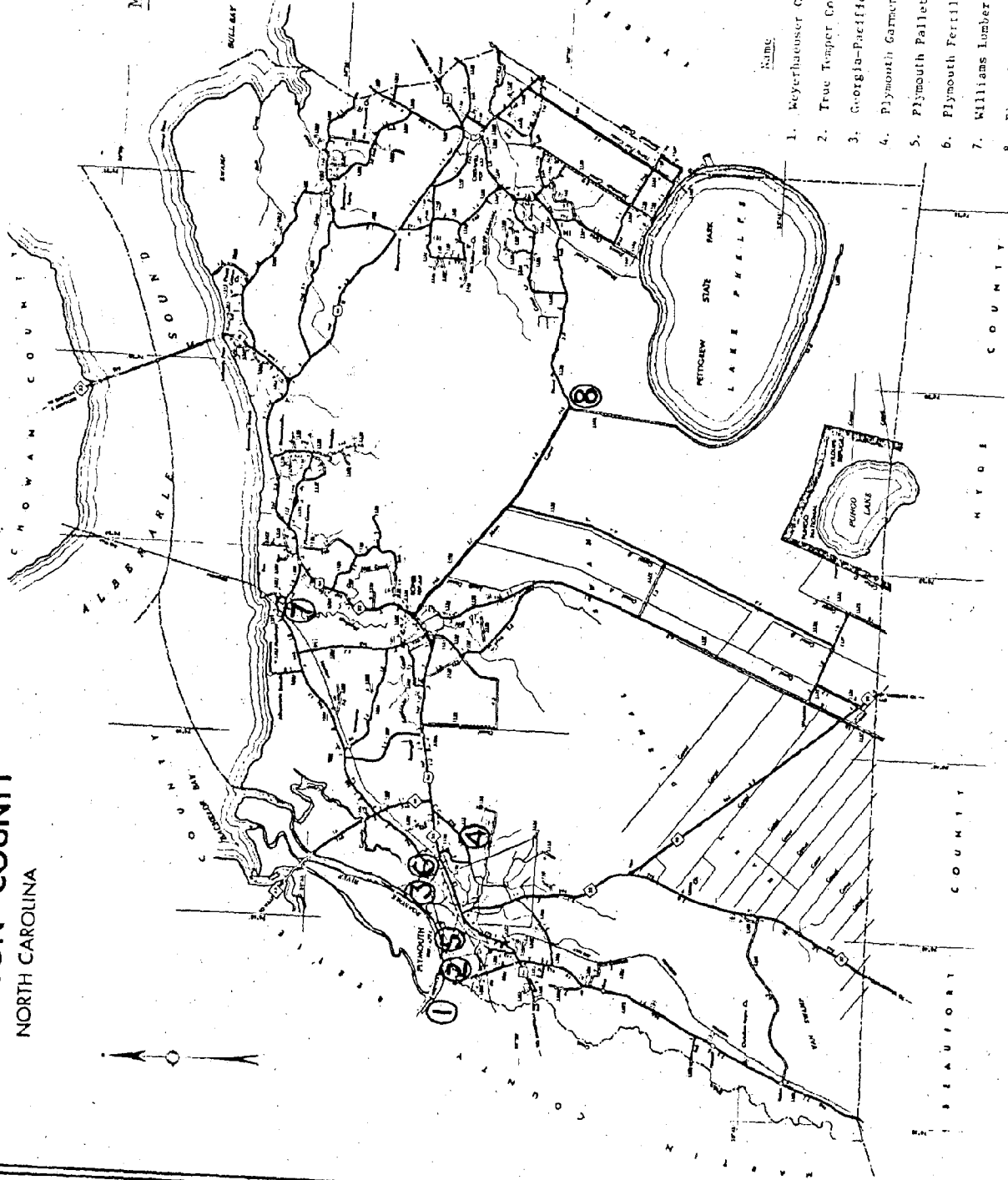
Figure 6
CROPLAND UTILIZATION

YEAR	PERCENTAGE ACREAGE OF CORN	PERCENTAGE ACREAGE OF SOYBEANS	PERCENTAGE ACREAGE OF WHEAT	PERCENTAGE ACREAGE OF PEANUTS	PERCENTAGE ACREAGE OF OTHER (TOBACCO)
1960	42	42		8	8
1961	34	47		9	10
1962	32	51		8	9
1963	27	56		8	9
1964	27	54		8	11
1965	29	56	3	7	5
1966	29	59		6	6
1967	31	57		6	6
1968	28	62		6	4
1969	30	59		6	5
1970	38	53		5	4
1971	43	45		5	7
1972	42	46		5	7
1973	42	49		4	5
1974	44	46		4	6
1975	45	47		4	3
1976	52	42		4	1
1977	46	47		4	10
1978	46	47		4	2
1979	46	47		4	2

SOURCE: NCDA Land Utilization Survey, Washington County

WASHINGTON COUNTY NORTH CAROLINA

Figure 7
MAJOR AREA EMPLOYERS



LEGEND

Name	No. Employees
1. Meyerhauser Corp.	2747
2. True Temper Corp.	37
3. Georgia-Pacific Corp.	108
4. Plymouth Garment Co.	244
5. Plymouth Pallet Co.	12
6. Plymouth Fertilizer	31
7. Williams Lumber Co.	100
8. First Colony Farms	350

SOURCE: Chamber of Commerce

May, 1980

Figure 8
BUSINESS PATTERNS

Industry	Number of Employees Mid-March Pay-Period	Taxable Payroll Jan.-Mar. (1,000)	Total Reporting Units
Washington County			
Total	2,386	4,147	183
Agricultural Services, Forestry, Fisheries	(D)	(D)	1
Contract Construction	54	66	14
Manufacturing	1,463	3,049	22
Apparel & other textile prod.	(D)	(D)	1
Children's outerwear	(D)	(D)	1
Children's outerwear, NEC	(D)	(D)	1
Lumber & wood prod.	323	482	15
Logging camps & logging contr.	85	76	11
Sawmills & planing mills	(D)	(D)	2
Sawmills & planing mills, gen.	(D)	(D)	2
Paper & allied prod.	987	2,400	3
Paper mills, except bldg. paper	(D)	(D)	2
Paperboard containers & boxes	(D)	(D)	1
Sanitary food containers	(D)	(D)	1
Transportation and Other Public Utilities	28	52	4
Wholesale Trade	146	242	13
Retail Trade	426	477	75
Food stores	92	100	16
Grocery stores	(D)	(D)	15
Auto dealers & serv. stations	90	124	13
Misc. retail stores	56	88	11
Finance, ins., & real estate	60	98	11
Services	169	136	37
Personal services	37	23	12
Unclassified establishments	(D)	(D)	6

Source: 1976 CAMA Land Use Plan

Data on the value of products manufactured in Washington County cannot be determined from the information available because of figures withheld to avoid disclosure of individual firms. However, 1978 labor force estimates from the Employment Security Commission for the County, indicate a total of 570 persons in manufacturing, principally in the Town of Plymouth. This amounts to 8 percent of the locally-employed labor force.

A much larger segment of the manufacturing labor force lives in the Plymouth area, but works at the Weyerhaeuser paper mill adjacent to the County line, in Martin County. Work trips outside of Washington County exceed those of surrounding counties to a significant degree (figure 9).

Retail trade in the County is primarily concentrated in the Town of Plymouth. Retail sales, although up 263 percent from 1973 to 1976, suffer due to the County's small population and the proximity of Washington, Williamston, and Edenton. An estimate of gross retail sales per person indicates that Washington County's sales per person is now above the average of the surrounding six counties (figure 10).

Employment Findings

The largest number of employed persons in the towns and the county are blue collar workers employed as operators (figure 11). The second largest group are skilled blue collar craftsmen and foremen. From 1960 to 1970, the number of persons with skilled white collar jobs has increased significantly (by 150 percent in the

Figure 9

WORK TRIPS OUTSIDE COUNTY OF RESIDENCE:

WASHINGTON COUNTY AND OTHER AREAS

Percent of County Labor Force
Working Outside County

	<u>1960</u>	<u>1970</u>	<u>% Increase Over 1960</u>
Washington County	25%	44%	+176%
Wake County	5%	14%	+280%
Mecklenburg County	4%	11%	+275%
Pitt County	8%	21%	+262%
Beaufort County	8%	18%	+225%
Bertie County	9%	31%	+444%
Chowan County	8%	23%	+287%
Hyde County	6%	19%	+416%
Martin County	7%	18%	+257%
Tyrrell County	9%	25%	+277%

SOURCES: Washington County Land Use Plan, 1976

Figure 10

RETAIL SALES PER 1000 POPULATION (Estimate only)

	<u>1973 Gross Retail Sales</u>	<u>1970 Population</u>	
Washington Co.	\$15,017,000	14,038	\$1782.08/person
Martin Co.	50,499,000	24,730	2042.00/person
Beaufort	92,615,000	35,980	2574.06/person
Bertie	29,620,000	20,528	1442.90/person
Chowan	25,244,000	10,764	2345.22/person
Hyde	5,931,000	5,571	1064.62/person
Tyrrell Co.	5,890,000	3,806	1547.55/person

SOURCE: Washington County Land Use Plan, 1976

	<u>1976-77 Retail Sales</u>	<u>1976 Population</u>	
Washington Co.	\$54,544,801	14,900	\$3660.70/person
Martin Co.	93,249,272	25,200	3700.36/person
Beaufort Co.	177,794,659	38,800	4582.33/person
Bertie Co.	43,818,867	21,000	2086.60/person
Chowan Co.	45,173,953	11,500	3928.16/person
Hyde Co.	12,521,008	5,600	2235.89/person
Tyrrell Co.	9,615,670	3,800	2530.43/person

SOURCE: Dept. of Administration

Figure 11

OCCUPATIONAL BREAKDOWN OF EMPLOYED PERSONS
IN PLYMOUTH AND WASHINGTON COUNTY, 1960-1970

<u>JOB TYPE</u>	<u>PERCENT OF TOTAL EMPLOYED, 1960 PLYMOUTH/COUNTY</u>		<u>PERCENT OF TOTAL EMPLOYED, 1970 PLYMOUTH/COUNTY</u>		<u>PERCENT CHANGE 1960-1970 PLYMOUTH/COUNTY</u>
Professionals	8%	/ 3%	12%	/ 7%	+150%/ +230%
Farmers	1%	/ 13%	1%	/ 6%	no change / - 50%
Managers	8%	/ 5%	10%	/ 8%	+125%/ +160%
Clerical	10%	/ 4%	12%	/ 8%	+120%/ +200%
Sales	8%	/ 6%	4%	/ 3%	- 50%/ - 50%
Craftsmen	16%	/ 12%	13%	/ 18%	- 20%/ +150%
Operators	21%	/ 20%	24%	/ 25%	+115%/ +125%
Housekeepers	7%	/ 6%	4%	/ 3%	- 40%/ - 50%
Service Workers	7%	/ 4%	9%	/ 8%	+130%/ +200%
Farm Labor	1%	/ 11%	1%	/ 47%	no change / - 60%
Common Labor	8%	/ 5%	7%	/ 8%	- 10%/ +160%

Total employed, Town of Plymouth, 1960: 1673; 1970: 1727.

Total employed, Washington Co. outside Plymouth, 1960: 2415 1970: 4679

SOURCE: Washington County Land Use Plan, 1976

Note: Percentages shown have been rounded off. To get a close approximation of the actual count of persons in a particular category, multiply the "total employed" figure by the percentage for the give year.

Town of Plymouth and 230 percent in the County for professionals and technicians).

Whereas, in the past unemployment in Washington County has been slightly higher than the average rate for the surrounding six counties, it has now decreased. The majority of these counties have seen a slight to sharp increase in unemployment since 1973 (figure 12).

In the past Washington County has consistently averaged higher than the rate for the State at any time, but has been about average for this region. Presently Washington County has one of the lowest unemployment figures of the six surrounding counties and is equivalent to the 1979 North Carolina unemployment rate.

Family median income in the County rose 205 percent to \$7,177 in 1970, or to a point two percent behind Plymouth's family median income of \$7,313 (figure 13). The county-wide average of median family income is ahead of that for the surrounding six counties, but behind that of the State.

Figure 12

RATES OF UNEMPLOYMENT FOR
WASHINGTON COUNTY AND OTHER AREAS

<u>Counties</u>	⁺ <u>Average Rate For 1965-1973</u>	^o <u>Average Rate For 1974-1977</u>	[*] <u>Average Rate For Most Recent Year of Record, 1979</u>
Washington County	6.2%	6.2%	4.8%
Wake County	2.3%	3.8%	3.1%
Mecklenburg County	2.1%	5.0%	3.9%
Pitt County	5.9%	5.9%	5.3%
Beaufort County	3.8%	4.5%	4.9%
Bertie County	6.3%	8.0%	5.9%
Chowan County	4.3%	6.8%	4.4%
Hyde County	6.7%	7.6%	6.1%
Martin County	5.4%	8.8%	6.2%
Tyrrell County	7.8%	10.0%	9.1%
North Carolina	3.7%	6.3%	4.8%

SOURCE: + CAMA Land Use Plan 1976

o N. C. Statistical Abstract

* N. C. Employment Security Commission

Figure 13

MEDIAN FAMILY INCOME:

PLYMOUTH AND SURROUNDING TOWNS

	<u>1960 Median Income All Families</u>	<u>1970 Median Income All Families</u>	<u>% Change Over 1960</u>
Plymouth	\$4665	\$7313	+157%
Edenton	3918	7250	+185%
Washington	4410	6563	+149%
Williamston	3448	6510	+189%

MEDIAN FAMILY INCOME: WASHINGTON COUNTY

(NOT INCLUDING PLYMOUTH) AND OTHER AREAS

	<u>1960 Median Family Income</u>	<u>1970 Median Family Income</u>	<u>% Change Over 1960</u>
Washington Co.	\$3495*	\$7177*	+205%
Beaufort Co.	2409	6435	+267%
Bertie Co.	2117	4829	+228%
Chowan Co.	2714	6397	+236%
Hyde Co.	1979	4478	+226%
Martin Co.	2366	5711	+241%
Tyrrell Co.	1927	4307	+224%
North Carolina	3956	7774	+197%

SOURCES: Washington County Land Use Plan, 1976

Note: * Median family income for all of Washington County in 1970 was \$7,182. This includes the median family income for Plymouth. Without Plymouth, the median family income for the "farm" and "non-farm" families of Washington County (i.e., those families outside Plymouth) was \$7,177. The 1960 statistic of \$3495 was arrived at by the same method.

COUNTY LAND USE

Existing Land Use

Land use mapping information was compiled from the 1980 Tax Revaluation Field Survey in which each tract of land within the County was examined and information recorded relative to land use. This information has been transferred onto planning maps at a scale of 1" = 1,000' and also on a generalized land use map included in the appendix.

Tax records show 113,091 acres in cleared farm real estate comprising 53 percent of the County's land use. Forty one percent or 88,566 acres of forest land, 4.0 percent water area and 5.6 percent of urban uses make up the 342 square miles of Washington County land area.

Of the urban tracts of land, including Roper, Creswell, and Plymouth, there are 10 industrial units, 355 commercial uses, and 4293 residential sites.

Agriculture, the dominant land use throughout the County, is concentrated east of Highway 99 toward Lake Phelps in the southernly section of the County. During the period 1960-1977, acreage in farms increased 44%, with productive row crops equivalent to 56% of the 136,113 acres in farmland (Figure 14).

The dramatic increase in productive farmland is attributable to large scale land reclamation activities of First Colony Farms. Land clearing technology, made feasible by such corporate farms, has allowed for the use of previously unsuitable land for successful crop production.

The scale of First Colony's operation has raised local hog production (now under management by Tyson Carolina) to an all time high, while greatly increasing grain storage capacity in the County with its bonded commercial elevator near Lake Phelps.

Figure 14

PERCENTAGE UTILIZATIONS OF FARM LAND
IN WASHINGTON COUNTY

<u>Year</u>	<u>Acreage of All Land in Farms</u>	<u>Percentage Row Crop</u>	<u>Percentage Idle Crop</u>	<u>Percentage Pasture</u>	<u>Percentage Forest</u>
1960	94,671	45	not reported	5	50
1961	95,297	39	6	5	50
1962	101,475	41	7	5	47
1963	100,150	43	6	4	47
1964	102,364	43	6	5	46
1965	102,765	43	6	4	47
1966	101,974	48	4	5	43
1967	104,015	50	4	4	42
1968	106,971	49	4	4	43
1969	109,666	49	7	3	41
1970	114,466	53	4	4	39
1971	113,238	56	3	3	38
1972	113,511	56	6	3	35
1973	121,887	55	2	4	39
1974	123,840	51	6	3	40
1975	146,786	47	7	5	40
1976	146,221	48	3	5	43
1977	136,113	56	2	3	39

SOURCE: North Carolina Department of Agriculture,
Land Utilization and Crop Acreage Surveys

In 1973, First Colony's land holdings equalled 32,900 acres. Since that time, approximately 15,000 acres have been liquidated to foreign and domestic concerns. The majority of the farmland sold to corporate concerns is being leased to local tenant farmers.

The significance of large investments, suitable soils and the higher unit prices farm products derive, reinforce the continuation of agriculture as the future major land use in the area.

Forest land covers 41% of the County's land area. Ownership is divided among public agencies, the forest industry, individuals, and corporate interests.

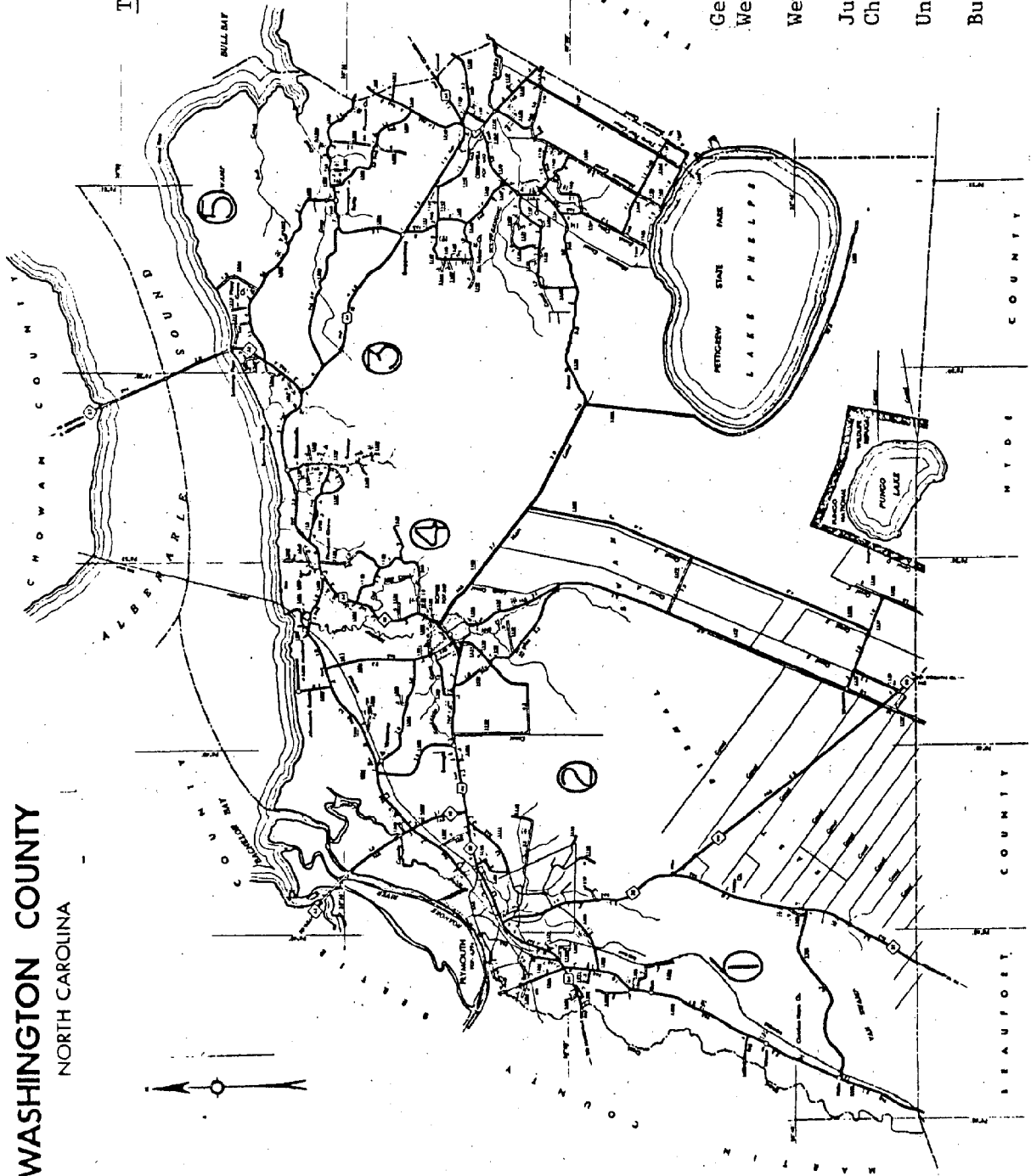
All large timber tracts within Washington County are owned by corporate interests (Figure 15), with only one sizeable tract, owned by Juniper Farms, being converted to crop production.

Publicly owned forest lands include Pungo National Wildlife Refuge, Pettigrew Park, and a tract of land on the southeastern side of Lake Phelps. Other forested areas are scattered throughout the County, primarily in the northern sector.

WASHINGTON COUNTY NORTH CAROLINA

Figure 15

TIMBER TRACTS



Commercial and industrial activities are concentrated in or near the Towns of Plymouth, Roper, and Creswell. Elsewhere, business activity is sharply limited, consisting primarily of small grocery stores scattered along the County's rural roads.

The largest industry in the County is the Plymouth Garment Company in Plymouth. Outside of Plymouth, industry in the County is limited to the First Colony Farms grain elevator between Creswell and Roper on Newland Road and the Williams Lumber Company at Mackey's, north of Roper.

With the proposed extension of water to a newly purchased industrial site, the County envisions an increase in industrial development within the next ten years. The proposed site, located on highway 45 east of Plymouth, is 60 acres in size.

Residential land use in the County consists of scattered-site single family homes and mobile homes on individual lots of record, fronting existing roads. Subdivisions and mobile home parks are primarily located around Plymouth and along the shoreline of the Albemarle Sound.

A 1980 tax revaluation survey of County land use estimated 4,293 single family units in the County, inclusive of the Towns. The same survey revealed 862 mobile homes in mobile home parks and on individual lots, which reflects an increase of 107 percent since 1973. This increase is likely to continue in the foreseeable future until other forms of housing are made available in a price range that local families can afford, or until new industry with higher wage rates settles in the area.

Second home development along Albemarle Sound is expected to continue at a slow pace over the next ten years. The foreseeable change in this seasonal housing is the occupancy of existing summer houses on a year-round basis.

New subdivision development has been minimal since the adoption of

County subdivision regulations in June of 1977. Existing subdivided lots are being developed, with scattered new minor subdivision of less than five lots occurring throughout the rural areas. No major subdivisions, requiring the paving of roadways, have been developed in the last three years.

Significant Land Use Compatibility Problems

At the present time, land use compatibility problems are limited in the County. The best example of a compatibility problem are hog parlors in proximity to homes and churches. Many times odor travels significant distances and is generally extremely offensive.

The intermixing of mobile homes with single family dwellings along the Albemarle Sound has been a reoccurring complaint. Mobile homes are many times rented and are not as well kept as adjacent residences. Very few respondents to the questionnaire wanted more mobile homes in the area immediately surrounding the community where they lived, or in the County as a whole.

Development is increasing in close proximity to the Plymouth Airport, primarily on Reno Road located along the southern boundary of the airport property. Continued residential construction close to the airport may perpetuate future problems if airport expansion is necessary. The safety of adjacent residents would also be in question if air traffic were to increase.

Unplanned Development

Thus far major impact has not been experienced due to unplanned development, but the potential for significant problems exists.

Highway 64, spanning the length of Washington County, and a major link between the Piedmont and the Outer Banks, is becoming congested due to commercial and residential development along its corridor. As proven in other localities, increased strip development promotes the burden of extensive roadway improvements such as the widening of roadways and their eventual replacement by bypasses.

Due to residential development along major roadways, speed limits have been reduced, decreasing the utility of these roadways as thoroughfares, and during the summer months, the increased tourist traffic and farm machinery use makes travel on the two - lane highway hazardous.

Increased development on paved roads has been encouraged by the adoption of new roadway standards by the Department of Transportation in 1973, which require that all new roads must be paved. Developers are using land on existing paved roads due to the expense of constructing new hard surface roadways into interior property. Recent subdivision regulation revisions allowing for the subdivision of four lots on unpaved roadways have provided an opportunity for the continuation of minor subdivisions.

Residential building along the Albemarle Sound has impacted access to the shoreline. Traffic patterns are unplanned, promoting difficulty in optimum land utilization. The majority of roads serving the Sound area are unpaved and run along the Sound at the depth of one lot. Emphasis is on maximum utilization of waterfront property, with no thought to future use of adjacent land, nor potential erosion which may eventually destroy the waterfront lots and the road.

Another impact of unplanned residential development has been the malfunctioning of sewage disposal systems in subdivisions located on unsuitable soils.

Area subdivisions developed prior to the adoption of Subdivision Regulations, are experiencing difficulty with disposal systems and/or approval of lots for systems, according to the County Sanitarian. Although some developments are in the early stages of development, others have a number of homes with existing systems which creates a question as to the alternatives available to property owners.

In most older subdivisions, adequate land is not available for the installation of a second system and many times public services are not available. Widespread malfunctioning in subdivided areas may put pressure on municipalities to service these areas, causing random extension of utilities and suburban sprawl. With careful site analysis and Health Department approval, new developments will hopefully be free of such problems.

The only areas subject to changes in predominant land use is the forested area owned by Juniper Farms being cleared for agriculture, and approximately 9,000 acres of pocosin related shrub land south of Lake Phelps which will be mined for peat.

Existing Land Use in Roper and Creswell

In the Town of Roper, (.9 sq. miles) approximately 41 percent of the area is devoted to harvested cropland. An additional 26 percent of the town consists of forest and swamp which have no significant commercial value. Residential land (approximately 18 percent of the town) is clustered around the business district, with only 4 percent of the area in Roper used for commercial purposes.

Creswell (.6 sq. miles) has only 7 percent of the incorporated area in harvested cropland. More significant is the 54 percent covered by non-commercial forestland and swamp. Residential land consist of 19 percent of the area which

is clustered around the compact business district (approximately 5 percent). The remaining area is used for public buildings and utilities.

Public lands consist of about 35 acres in Roper and 27 acres in Creswell. School grounds are the largest part of this acreage with smaller tracts used for fire departments, municipal offices, storage areas, and other community utilities and facilities.

Land use compatibility problems are limited in Roper and Creswell. Both towns have minor compatibility problems with livestock operations located near the corporate limits. If such operations continue to expand, a significant odor problem might arise. Both Towns are considering zoning regulations as a means to prevent compatibility problems with future development.

The major problems which have resulted from unplanned development are all centered around the drainage problem. Since both Towns expect a growth in population and neither Town has the option of moving to higher elevations, drainage plans are being developed to enhance future land use.

Land now used for agriculture in Roper and Creswell will tend to be converted to other uses as growth occurs. Due to the use of chemicals and heavy equipment in agricultural production this conversion of land use is desirable.

There are no areas of environmental concern within the corporate limits of Roper or Creswell.

Roper's AECs are the waters of Mill Creek and Deep Run. Since these waterways are blocked to navigation between Roper and the Albemarle Sound with no solution in sight due to Federal Regulations, development is not likely. In the event development occurs, appropriate uses are indicated on page 135 of this plan.

WASHINGTON COUNTY PLANS, POLICIES AND REGULATIONS

The following land use plans, regulations, and policies have been prepared for the Washington County Board of Commissioners, and where noted, the Towns of Roper and Creswell. A complete list of plans, policies, and regulations for the Town of Plymouth will be included in their updated Land Use Plan.

Regulations

Washington County Subdivision Ordinance - Initially adopted in June of 1977, subsequently amended in October 1977 and July of 1979, the ordinance requires the platting and approval of subdivided land in the County and Roper and Creswell. Minor subdivisions and major subdivisions are reviewed by either a Subdivision Review Committee, the Planning Board or the Board of Commissioners. The ordinance is administered by the County Planner.

Mobile Home and Travel Trailer Park Ordinance - This ordinance regulates the planning and construction of mobile home and travel trailer parks throughout the County. The ordinance was adopted in July of 1974 and subsequently amended in July of 1979. The ordinance is enforced by the County Planner, Building Inspector and the County Electrical Inspector.

Laws and Rules for Ground Absorption Sewage Disposal Systems - These regulations control the use of sanitary sewage disposal systems with 3,000 gallons or less design capacity serving a single or multifamily residence, place of business, or place of public assembly. The Washington County Health Department is responsible for the administration of these regulations.

State Building and Electrical Codes - The codes call for the inspection of new construction to assure conformance with State standards. The County Electrical and Building Inspectors are responsible for the permitting and inspection of such construction.

Flood Hazard Ordinance - A flood study for the county will be prepared within the next 18 months (exclusive of Creswell). Upon completion of the study a local Flood Hazard Ordinance will

be adopted which will address building requirements in flood prone areas. The enforcement officer will be designated upon adoption of the study and ordinance. The County is now under the emergency program.

Planned Unit Development Ordinance - An ordinance allowing the construction of planned unit developments within the County has been prepared for the Board of Commissioners. The ordinance, proposed as a part of the Subdivision Regulations, has not been adopted.

Plans and Policies

County Soil Survey - A detailed soil survey containing maps and soils information has been prepared by the Soil Conservation Survey.

Housing Survey - The Department of Natural Resources and Community Development inventoried the structural conditions of county housing in 1973.

Community Development Program - Prepared by Williams and Works in 1976, the Program is a documentation of the needs of low and moderate income citizens in Washington County.

Washington County Community Development Plan - This planning document was developed in order to provide the citizens of Washington County with an objective review of certain neighborhood, community, and county-wide improvements that are necessary to upgrade the overall quality of living. It is intended to be a planning guide by which certain actions and funds can be directed over the next decade.

Washington County Housing Plan - Prepared by the Community Development office and adopted in December of 1977, the Housing Plan assesses the County's present and anticipated housing needs and proposes means by which to insure that these needs are met.

Implementation and Permit Enforcement Plan - The Plan is an outline for Washington County to follow in their efforts to properly guide growth and development in Areas of Environmental Concerns.

Washington County Land Use Plan - The initial plan was adopted in 1976 and included Roper and Creswell. The 1976 plan includes statistical information relative to population and economy, local goals and objectives concerning future growth, identification of areas suitable for future development and a plan by which future land use will be guided. Reasonable and careful use of our coastal resources is the primary focus of the Coastal Area Management Plan.

Washington County Land Use Element - This document addresses those requirements set forth by the Department of Housing and Urban Development under section 701 guidelines. The purpose of the element is to provide direction for addressing land use concerns of Washington County and its citizens.

Land Use Element Region R - The main purpose of this document is to address, focus on and draw specific regional land use goals, policies, objectives and implementation procedures from the individual County CAMA Plans while leaving the more traditional detailed analysis and projections in the individual county land use plans. Ten counties constituting Region R, are addressed in this 1977 Plan.

Recreation Plans - Washington County Recreation Plan prepared by the Washington County Community Development office; Outdoor Recreation Potential for Washington County, N. C. prepared by Soil Conservation Service and U. S. Department of Agriculture; Statewide Comprehensive Outdoor Recreation Plan for North Carolina prepared by the State; An Appraisal of North Carolina's Potential for Outdoor Recreation Development prepared by USDA Soil Conservation Service; and Open Space-Recreation Plan Region R prepared by Albemarle Regional Planning and Development Commission.--- Each document assesses the recreational resources within the County, projects future need in types of recreational uses and proposes long range plans and goals. The plan prepared by the County is more explicit and detailed than Regional and State Plans.

Economic Development Plans - Washington County Overall Economic Development Plans, 1962, 1971; and Regional Overall Economic Development Plan, 1977--Each plan lists recommendations for priority needs based on available data. The regional plan designates Plymouth and surrounding areas as a growth center and provides comparative data for surrounding counties.

Solid Waste Planning Study - The report was prepared to assist the County in evaluating the existing system of solid waste disposal, to review the adequacy of the present landfill site that is serving the County, and make recommendations concerning the feasibility of alternative sites. Preparation of the plan in 1979 was a joint effort between ARPDC, Talbot and Associates and the County Planning Office.

Water Feasibility Study For Washington County - The study, completed in 1975 includes information concerning groundwater resources, existing water facilities, population projections and present and future water requirements. A construction schedule prioritizing proposed projects is also included.

Albemarle Area Resource Conservation and Development Plan of North Carolina - The plan, prepared by the Albemarle Resource Conservation and Development Council, provides guidance in the use and development of our natural resources. It was completed in 1977.

Shoreline Erosion Inventory - A study prepared by the Soil Conservation Service in 1975, the erosion inventory lists the physical factors associated with shoreline erosion in fifteen coastal counties, and attempts to assess the magnitude of the problem.

Pettigrew State Park Master Plan - The Division of Parks and Recreation has outlined plans for the expansion of recreational facilities at Pettigrew Park along Lake Phelps.

Lake Phelps Lake Management Study - Also prepared by the North Carolina Division of Parks and Recreation, this 1980 report provides background information on the Lake Phelps area, and proposes a plan for the management of the lake level.

ROPER PLANS, POLICIES, AND REGULATIONS

Roper has prepared the following plans, policies, and regulations in an attempt to effect good land use:

Plans and Policies

Community Profile 1978 - East Carolina University Regional Development Institute

Drainage Plan 1980 - U. S. Soil Conservation Service and Ivanfield Associates

Capital Asset Inventory and Five-Year Projection of Capital Improvements 1979 - Department of Natural Resources and Community Development - DCA

Roper Sewer System (Plans, Specs and Construction Documents) 1979 - L. E. Wooten & Co.

Citizen Participation Plan 1978 - Department of Natural Resources and Community Development - DCA

Washington County Land Use Plan 1976 - Washington County (Roper is a part of this plan)

Roper has an established policy for the extension of sewer lines.

Open Space, Recreation and Transportation policies have not been established.

Regulations

Subdivision Regulations 1978 - Department of Natural Resources and Community Development - DCA

Mobile Home and Travel Trailer Park Ordinance 1980 - Ivanfield Associates

Fair Housing Ordinance 1980 - Ivanfield Associates

Zoning Ordinance (Draft Copy under consideration) 1979 - Department of Natural Resources and Community Development - DCA

N. C. Building and Electrical Codes are administered in the Town by Washington County. Septic Tank Regulations are administered by the Washington County Health Department. Roper does participate in the Federal Flood Insurance Program.

Local regulations for historic districts, dune protection, sedimentation and environmental impact have not been considered as areas of concern beyond the requirements of specific projects such as the sewer system.

Roper has established various nuisance regulations as a part of the Town Ordinances.

CRESWELL CURRENT PLANS, POLICIES AND REGULATIONS

Creswell has prepared the following plans, policies, and regulations in an attempt to effect good land use:

Plans and Policies

Community Profile 1978 - East Carolina University
Regional Development Institute

Flood prevention and Drainage Plan 1980 - U. S. Soil
Conservation Service and Ivanfield Associates

201 Sewer Facilities Plan 1979 - L. E. Wooten and Co.

Capital Asset Inventory and Five Year Projection of Capital
Improvements 1979 -
Department of Natural Resources and Community
Development - DCA

Citizen Participation Plan 1978 - Department of Natural Resources
and Community Development - DCA

Washington County Land Use Plan 1976 - Washington County
(Creswell is a part of this plan)

Housing Assistance Plan 1979 - Creswell Community Development
Department

The Town has not prepared a Transportation Plan, however, as a matter of policy the Town Council supports the widening of U. S. 64. In addition the Town has taken steps to alleviate its major traffic problem by contracting for the widening, curbing, and paving of streets near the East Carolina Bank.

As a matter of policy, the Town has extended water lines along the populated corridors outside the town. According to the 201 Plan for sewer construction, these areas will also be served by sewer lines.

Open space and recreation policies have not been established.

Regulations

Subdivision Regulations 1978 - Department of Natural
Resources and Community Development - DCA

Mobile Home and Travel Trailer Park Ordinance 1980 -
Ivanfield Associates

Fair Housing Ordinance 1980 - Ivanfield Associates

Zoning Ordinance (Draft copy under consideration) 1979 -
Department of Natural Resources and Community Development-DCA

The N. C. Building and Electrical Codes are administered in the Town by the County. Septic Tank Regulations are administered by the Washington County Health Department. Creswell participates in the Federal Flood Insurance Program.

Local regulations for historic districts, dune protection, sedimentation and environmental impact have not been considered as areas of concern. These areas are treated on an individual basis as they arise in relation to specific projects such as Community Development Block Grant Projects and Sewer Plans.

Various nuisance regulations relating to livestock, noise, health and safety are included in the Town Ordinances.

STATE LICENSES AND PERMITS

Agency	Licenses and Permits
Department of Natural Resources and Community Development Division of Environmental Management	<ul style="list-style-type: none"> - Permits to discharge to surface waters or operate waste water treatment plants or oil discharge permits; <u>NPDES</u> Permits, (G.S. 143-215) - Permits for septic tanks with a capacity over 3000 gallons/day (G.S. 143-215.3). - Permits for withdrawal of surface or ground waters in capacity use areas (G.S. 143-215.15). - Permits for air pollution abatement facilities and sources (G.S. 143-215.108). - Permits for construction of complex sources; e.g. parking lots, subdivisions, stadiums, etc. (G.S. 143-215.109). - Permits for construction of a well over 100,000 gallons/day (G.S. 87-88).
Department of Natural Resources and Community Development Office of Coastal Management	<ul style="list-style-type: none"> - Permits to dredge and/or fill in estuarine waters, tidelands, etc. (G.S. 113-229). - Permits to undertake development in Areas of Environmental Concern (G.S. 113A-118). <p>NOTE: Minor development permits are issued by the local government.</p>
Department of Natural Resources and Community Development Division of Earth Resources	<ul style="list-style-type: none"> - Permits to alter or construct a dam (G.S. 143-215.66). - Permits to mine (G.S. 74-51). - Permits to drill an exploratory oil or gas well (G.S. 113-381). - Permits to conduct geographical exploration (G.S. 113-391).

Department of Natural Resources and
Community Development
Secretary of NRCD

- Sedimentation erosion control plans for any land disturbing activity of over one contiguous acre (G.S. 113A-54).
- Permits to construct an oil refinery.

Department of Administration

- Easements to fill where lands are proposed to be raised above the normal high water mark of navigable waters by filling (G.S. 146.6(c)).

Department of Human Resources

- Approval to operate a solid waste disposal site or facility (G.S. 130-166.16).
- Approval for construction of any public water supply facility that furnishes water to ten or more residences (G.S. 130-160.1).

FEDERAL LICENSES AND PERMITS

Agency	Licenses and Permits
Army Corps of Engineers (Department of Defense)	<ul style="list-style-type: none"> - Permits required under Sections 9 and 10 of the Rivers and Harbors of 1899; permits to construct in navigable waters. - Permits required under Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972. - Permits required under Section 404 of the Federal Water Pollution Control Act of 1972; permits to undertake dredging and/or filling activities.
Coast Guard (Department of Transportation)	<ul style="list-style-type: none"> - Permits for bridges, causeways, pipelines over navigable waters; required under the General Bridge Act of 1946 and the Rivers and Harbors Act of 1899. - Deep water port permits.
Geological Survey Bureau of Land Management (Department of Interior)	<ul style="list-style-type: none"> - Permits required for off-shore drilling. - Approvals of OCS pipeline corridor rights-of-way.
Nuclear Regulatory Commission	<ul style="list-style-type: none"> - Licenses for siting, construction and operation of nuclear power plants; required under the Atomic Energy Act of 1954 and Title II of the Energy Reorganization Act of 1974.
Federal Energy Regulatory Commission	<ul style="list-style-type: none"> - Permits for construction, operation and maintenance of interstate pipelines facilities required under the Natural Gas Act of 1938. - Orders of interconnection of electric transmission facilities under Section 202(b) of the Federal Power Act.

- Permission required for abandonment of natural gas pipeline and associated facilities under Section 7C (b) of the Natural Gas Act of 1938.

- Licenses for non-federal hydroelectric projects and associated transmission lines under Sections 4 and 15 of the Federal Power Act.

CONSTRAINTS

PHYSICAL LIMITATION FOR DEVELOPMENT

The high water table and level terrain characteristic of Washington County makes the use of land difficult at times. Soils with extreme limitations, which cover the majority of the County, also make development impossible in many areas.

Massive drainage has improved the utilization of county and municipal land for urban, agricultural, and forestry uses, yet many areas are still undevelopable due to physical limitations. These limitations include hazard areas, soil limitations, water supply sources and excessive slopes.

Hazard Areas

Flood hazard and shoreline erosion areas are the two major natural hazard areas which impact future development.

Potential flood hazard areas are shown on the Department of Housing and Urban Development Flood Hazard Boundary Maps, effective June 9, 1978. The most populated areas designated are Creswell and Cherry, with large areas along the Albemarle Sound also considered subject to flood conditions (Figures 16 - 18). A more precise flood study will be completed within the next eighteen months and will more accurately reflect the areas within the County subject to periodic inundation. The impact of flood hazard areas on future development can better be assessed when this accurate study has been completed.

A shoreline erosion study was prepared by the Soil Conservation Service in October of 1975 to determine the magnitude of the erosion problem, and to list factors associated with erosion. Divided into eight reaches (Figure 19)

the County's shoreline erosion rate of 4.5 ft. per year ranks high compared to other coastal counties (figure 20).

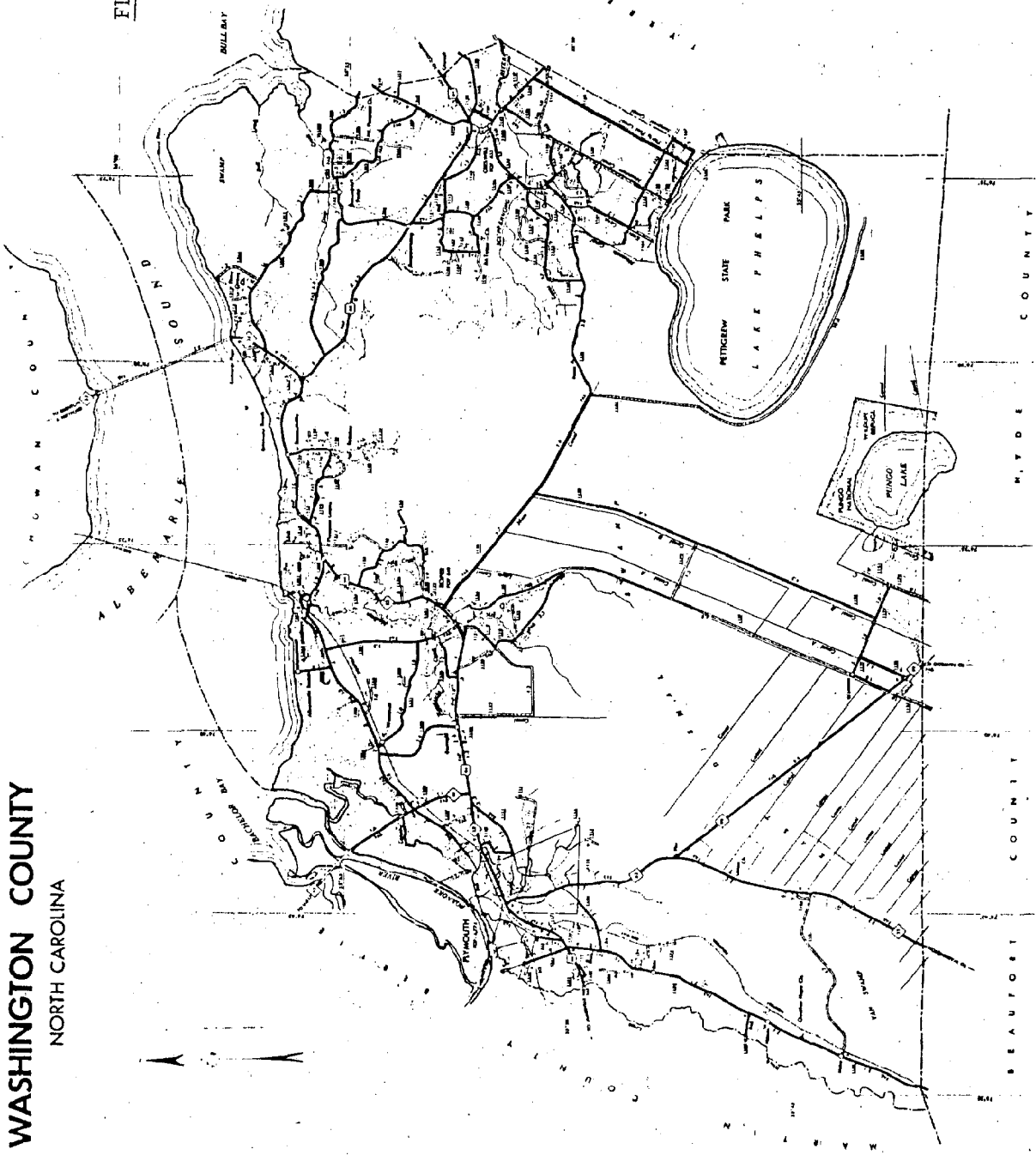
Reach number one, spanning from Plymouth to the mouth of Conaby Creek, has experienced no measurable change in erosion over the last 32 years. Over the same period, a section of shoreline from Conaby Creek to Albemarle Beach has lost an average width of 120.2 feet, from Albemarle Beach to Mackeys Creek 85.4 feet, and from Mackeys Creek to Skinnersville area 78.6 feet. Batemans Beach has lost an average of 116.8 feet to erosion and Leonards Point approximately 60.5 feet. The Laurel Point area had the most dramatic loss, 208.7 feet, with the shoreline west of the point to the Albemarle Sound bridge experiencing a loss of 111.4 feet.

A study conducted by ECU Geology Department attributes the majority of shoreline erosion to high energy storms, with the amount of recession at any specific location depending upon the storm frequency, storm type and direction, storm intensity and duration, and resulting wind tides, currents, and waves. Generally, Washington County's erosion is due primarily to the orientation of the Albemarle Sound, coupled with an extreme fetch (average distance of open water in front of shoreline) of up to 50 miles. The type of shoreline vegetation, topography, and parent material also has a bearing on the amount of erosion.

The shoreline along the Albemarle Sound consists of 43.9% Swamp Forest, 32.3% Low Bank, and 23.8% High Bank. Swamp forest shorelines occur where the topography is less than one foot above normal sea level, and are characterized by a mixture of cypress, black gum, and atlantic white cedar. Low Bank shorelines are sediment banks composed of clay, silt, and sand mixtures which rise 1 to 5 feet above normal water level. High bank shorelines are sediment banks consisting of clay, silt and sand mixtures which rise 5 to 20 feet above normal water level. The average

WASHINGTON COUNTY
NORTH CAROLINA

Figure 16
FLOOD PRONE AREAS



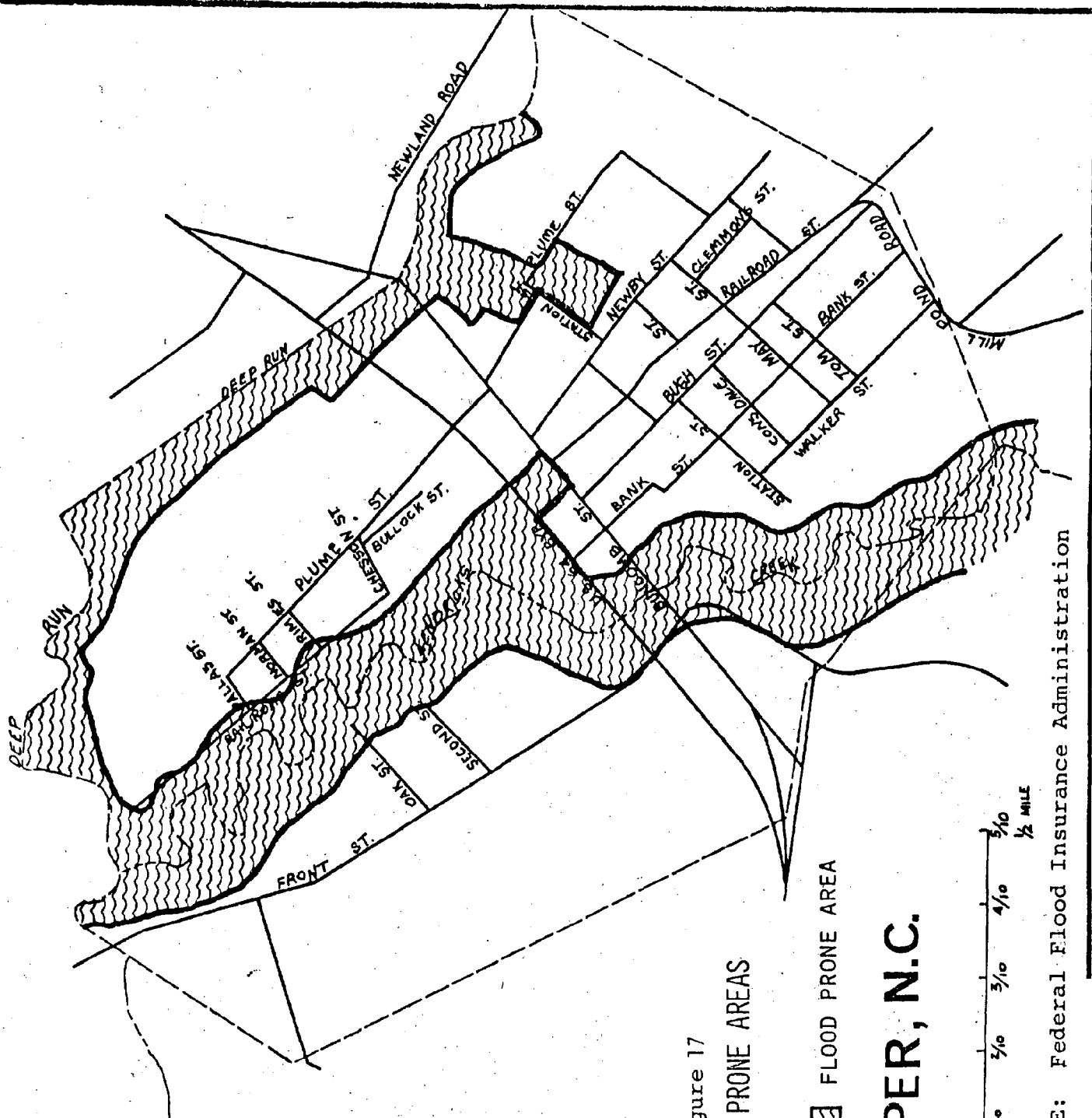



Figure 17
FLOOD PRONE AREAS

 FLOOD PRONE AREA

ROPER, N.C.

SCALE: $\frac{1}{10}$ $\frac{2}{10}$ $\frac{3}{10}$ $\frac{4}{10}$ $\frac{5}{10}$
 $\frac{1}{2}$ MILE

SOURCE: Federal Flood Insurance Administration

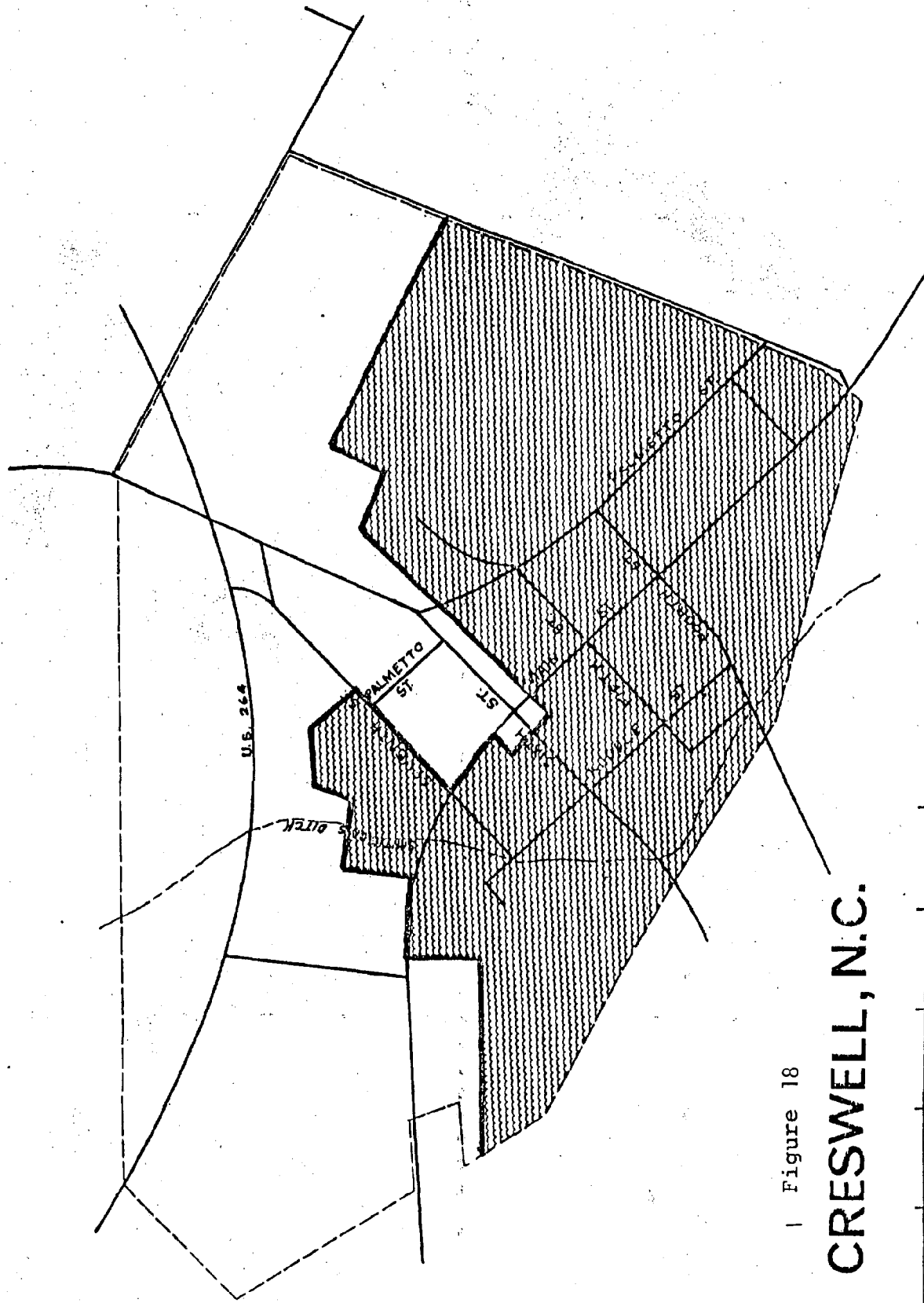


Figure 18

CRESWELL, N.C.

SCALE: 1/10 2/10 3/10 4/10 5/10
1/2 MILE

SOURCE: Federal Flood Insurance Administration

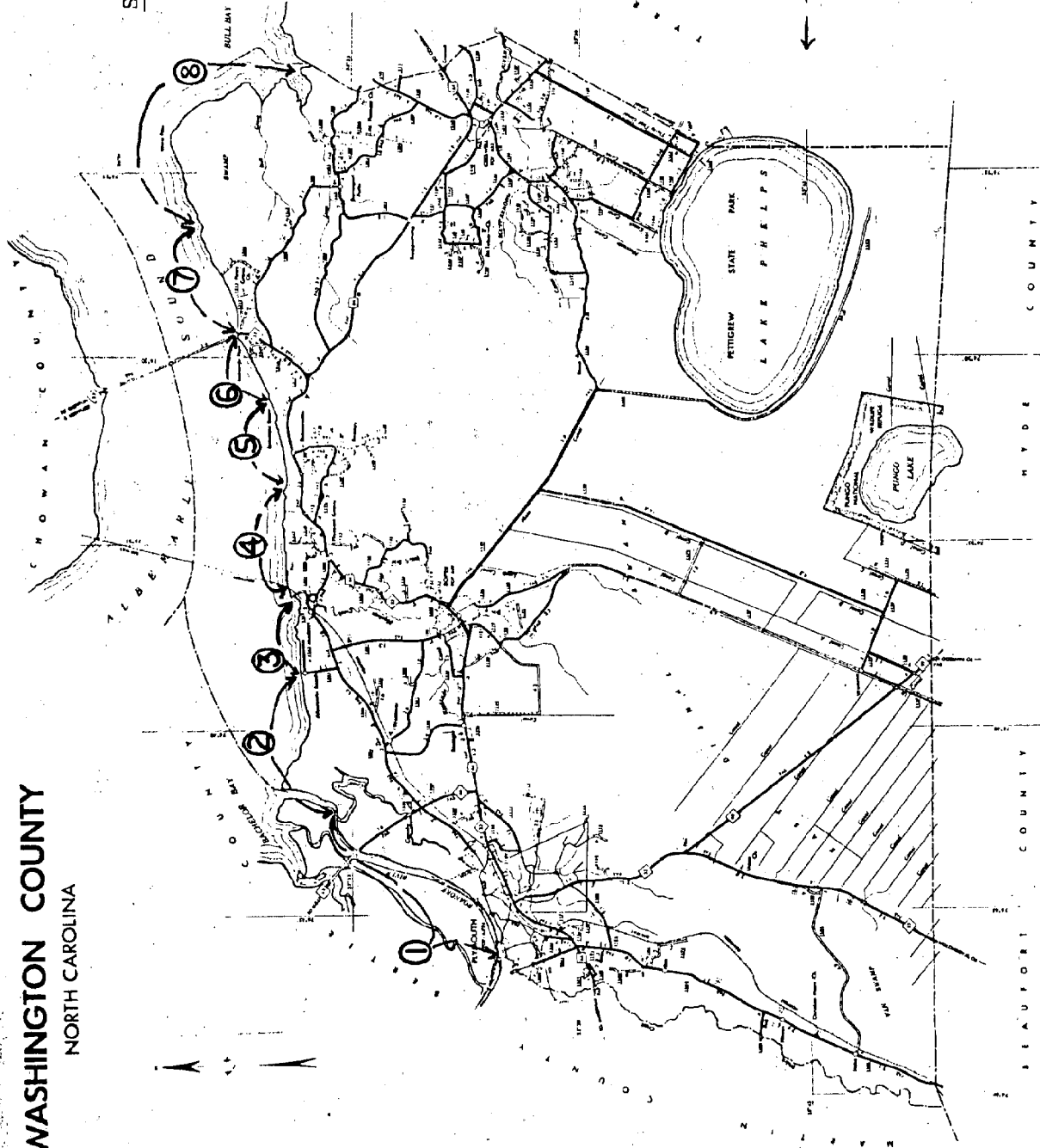
FLOOD PRONE AREAS



FLOOD PRONE AREA

WASHINGTON COUNTY NORTH CAROLINA

Figure 19
SHORELINE EROSION



County	Length of Shoreline Studied (Mi.)	Length of Shoreline Eroding (Mi.)	Total Area Lost (Ac.)	Total Sediment Produced (Tons)	Average Sediment Produced (Tons/Mi./Yr.)	Average Height of Bank (Ft.)	Average Width of Eroded Area (Ft.)	Average Erosion Rate (Ft./Yr.)	Length of Shoreline Covered by Study (Mi.)	Period of Study (Yr.)
Beaufort	148.1	126.5	968.1	6,430,365	1,588	3.4	53.8	1.7	0	32
Bertie	26.7	19.4	95.5	2,939,520	4,735	15.7	29.5	0.92	0	32
Camden	38.8	32.0	308.2	1,032,778	1,041	2.1	65.6	2.1	0	31
Carteret	178.89	146.63	891.31	7,097,700	2,689	4.1	50.2	2.79	10.13	18
Chowan	42.1	25.0	147.9	1,583,664	2,043	5.5	29.0	0.94	0.5	31
Craven	47.41	46.56	684.41	15,405,468	10,340	11.5	121.0	3.8	0	32
Currituck	123.4	108.6	514.3	3,410,625	1,013	3.4	35.2	1.13	3.1	31
Dare	82.0	80.1	437.3	1,285,841	730	1.5	44.0	2.0	0	22
Hyde	235.0	235.0	2,136.0	3,126,082	532	0.8	75.0	3.0	0	25
Onslow	64.5	26.0	55.0	1,000,736	2,138	9.3	17.5	1.1	5.7	15 21
Pamlico	54.74	54.25	738.16	8,164,563	4,703	5.6	112.0	3.5	0	32
Pasquotank	29.0	24.8	311.0	2,092,505	2,722	3.4	88.3	2.9	0	31
Perquimans	55.4	44.8	335.0	3,573,967	2,573	5.4	51.8	1.7	0	31
Tyrrell	89.6	89.6	485.6	1,521,295	772	1.6	44.7	2.0	0	22
Washington	25.6	24.7	445.1	2,030,923	2,569	4.5	143.5	4.5	0	32

*Weighted rate used for two periods of study: 1949 to 1970 and 1949 to 1964

erosion rate for the North Carolina estuarine system for these categories are: low bank 2.6 feet per year; high bank 1.9; and swamp forest 2.1 feet per year. Increased bulk heading of shoreline property in the more developed areas has decreased erosion somewhat, however when adjacent property is not protected the erosion damage to this property is dramatically increased.

Soil Limitations

Of the County's 214,690 acres, approximately 199,205 acres have severe limitations for building foundations and septic tanks, according to the Soil Conservation Service 1979 Soils Survey (figure 21). The unsuitability is attributable to clay content, organic matter, and the height of the water table. Generally, shallow soils are not a deterrent to development in Washington County.

Building foundations are negatively affected by soils with lack of strength and high shrink swell potential. Cracks and or major structural damage may result from constructing foundation on poor soils.

The location of sanitation systems on individual lots is directly affected by soil type. The North Carolina Health Administrative Code is very specific about the soil characteristics suitable for placement of sewage disposal systems. Each potential site is inspected and a soils boring made. The soil texture, structure, depth and drainage are then assessed prior to determining suitability.

Generally 2:1 (Montmorillonite) clays are unsuitable for installation of sewer systems due to texture, as are organic soils. Clay soils having blocky and platy structure may hamper movement of sewage effluent. Acceptable soil depth is 48 inches when standard systems are to be used. Any soil profile that has the greyish colors indicative of high water tables, or that is subject to tidal or periodic high water within 36 inches of the surface have generally been considered unsuitable as to drainage.

Although the majority of County soils have severe limitations, the installation of modified systems and lot alterations involving elevating the system site, or lowering the water table, have allowed for the use of marginal land for residential use.

Soils suitable for building development are located in the northern sector of the County adjacent to Plymouth and Roper, and scattered along Mackeys Road and the Albemarle Sound. (see soils study for specific areas)

Roper soil limitations are discussed on page 134 of this plan under constraints to development.

Creswell soil limitations are discussed on page 143.

Figure 21

SYMBOL	SOIL NAME	DRAINAGE	SOIL LIMITATIONS FOR		NUMBER OF ACRES
			SEPTIC TANK	FOUNDATION	
3	Altavista fine sandy loam	Fair	None	None	6,530
6	Arapahoe loamy sand	Poor	Severe	Severe	9,500
9	Argent silt loam	Poor	Severe	Severe	8,045
12	Augusta fine sandy loam	Poor	Severe	Severe	6,610
15	Belhaven muck	Poor	Severe	Severe	25,645
18	Bojac loamy fine sand	Good	None	None	1,220
21	Cape Fear loam	Poor	Severe	Severe	28,755
24	Conaby muck	Poor	Severe	Severe	3,600
28	Conetoe loamy sand	Good	None	None	3,365
35	Dogue fine sandy loam	Fair	Severe	Severe	2,650
38	Dorovan muck	Poor	Severe	Severe	17,600
39	Dorovan mucky silt loam	Poor	Severe	Severe	2,255
41	Dragston loamy sand	Poor	Severe	Severe	4,950
43	Fortescue silt loam	Poor	Severe	Severe	720
51	Hyde silt loam	Poor	Severe	Severe	5,010
94	Wehadkee silt loam	Poor	Severe	Severe	2,115
57	Pettigrew muck	Poor	Severe	Severe	6,310
60	Ponzer muck	Poor	Severe	Severe	1,120
63	Portsmouth fine sandy loam	Poor	Severe	Severe	20,000
71	Pungo muck	Poor	Severe	Severe	14,815
75	Roanoke loam	Poor	Severe	Severe	15,550
78	Roper muck	Poor	Severe	Severe	6,590
80	Scuppernong muck	Poor	Severe	Severe	2,040
86	Tarboro sand	Good	None	None	945
88	Tomotley fine sandy loam	Poor	Severe	Severe	3,825
90	Wahee fine sandy loam	Poor	Severe	Severe	4,140
92	Wasda muck	Poor	Severe	Severe	7,360
98	Wickham loamy sand	Good	None	None	3,425
			TOTAL		214,690

Water Supply Areas

Ground water - Washington County is currently well-endowed with a more than ample supply of water. Its surface waters fall within the Roanoke River basin and the Albemarle Sound. Private and municipal water supplies draw upon two aquifers underlying the County.

The Castle Hayne aquifer is highly productive and the principal source of water supply in western Washington County. The aquifer consists predominantly of porous and permeable limestone and lies at depths ranging from about 120 ft. in the Western part of the County to 400 feet in the eastern part. Yields of several hundred gallons per minute are obtained from wells of four to eight inches in diameter that penetrate only 15 to 30 feet of the aquifer.

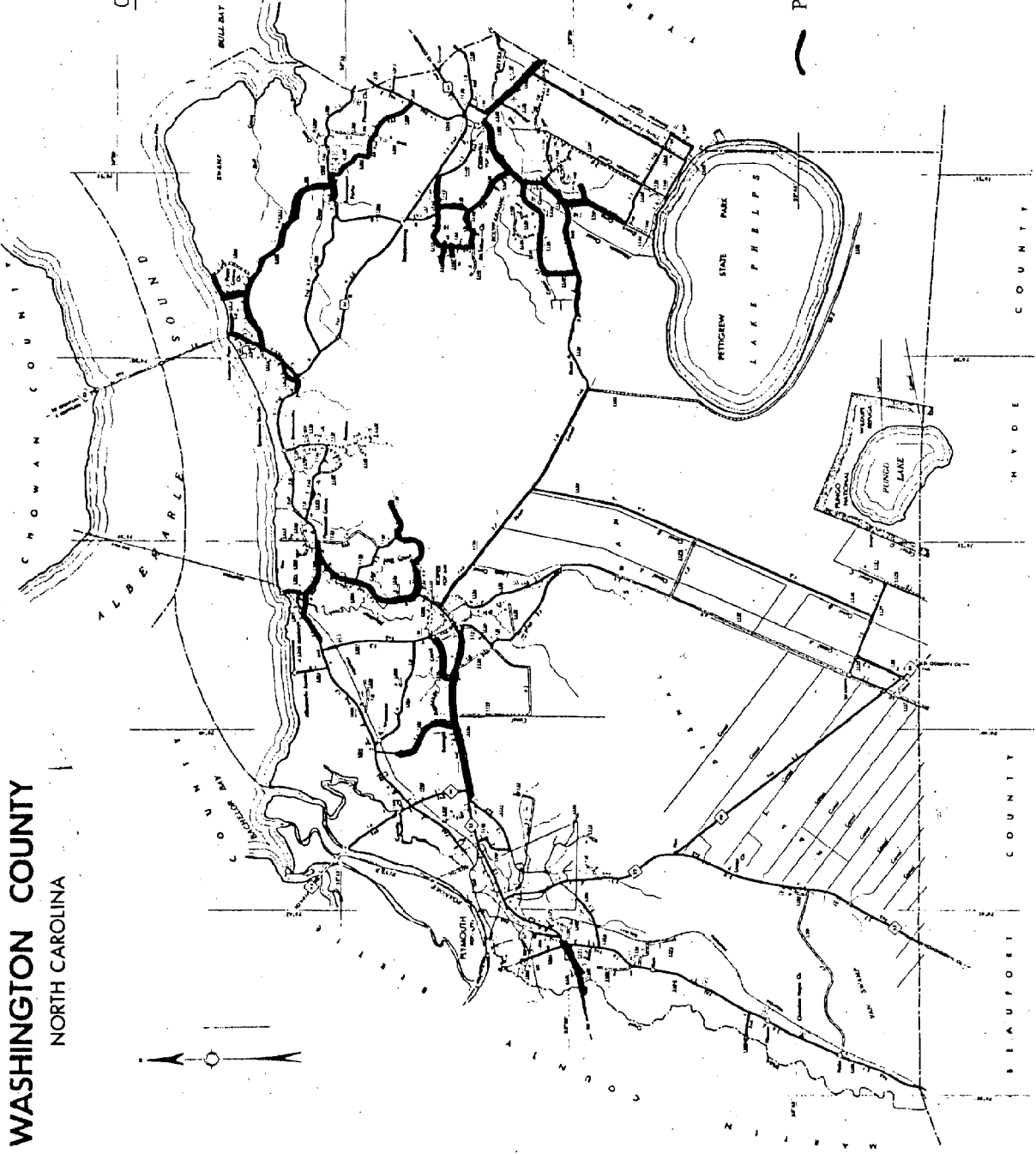
The Yorktown aquifer, comprising all the confined water-bearing beds above the Castle Hayne aquifer, has been developed extensively as sources of domestic water supply in the County, and is the chief source of supply in the eastern part where it is about 300 to 350 feet thick. The aquifer offers a shallower and less highly mineralized source of water supply than the Castle Hayne aquifer. Yields from individual wells range from 5 to 60 gallons per minute.

Groundwater in Washington County, although not of uniform quality, is satisfactory for most domestic uses. Water from the Castle Hayne limestone is characteristically hard, high in iron and contains hydrogen sulfide. Yorktown aquifer water ranges from hard to soft and generally contains iron. Many county residents use water softeners to generate palatable water for domestic use, however the proposed provision of county water will relieve this problem in many communities.(Figure 22).

WASHINGTON COUNTY NORTH CAROLINA

Figure 22

COUNTY WIDE WATER SYSTEM



Legend
— Proposed Service Areas

Due to their braquish nature the Roanoke River and Albemarle Sound are not feasible as potable water sources, but the waters of Lake Phelps may represent a future water source for the County in years to come.

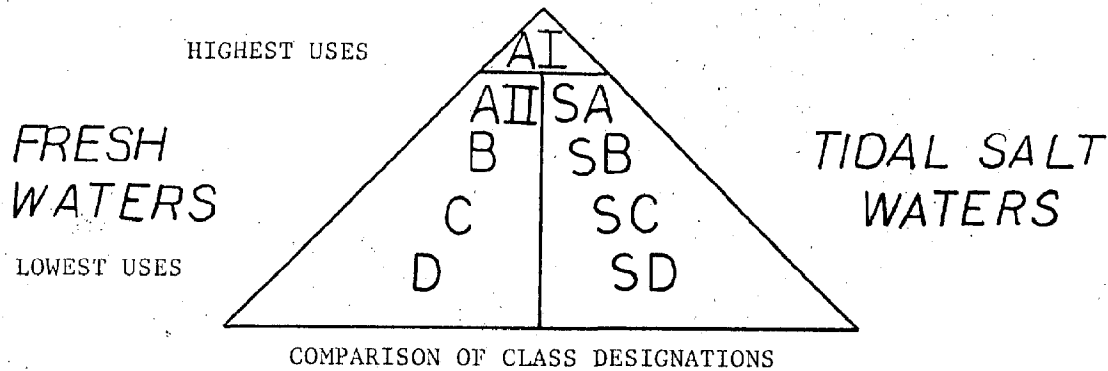
Surface Waters - The suitability of surface waters for various uses has been categorized in North Carolina according to a system of water quality classifications which rank order fresh and tidal salt waters according to their levels of pollution. Higher classifications which denote water for food processing can include lower quality uses such as waste disposal as well, but not without degrading the higher classification to a lower standard. Lower water quality classifications can only be raised to higher classifications through control and treatments of effluents. These nine classifications are depicted in the form of a pyramid and are discribed in Figure 23.

Figure 24 reveals that there are only four classifications for surface waters out of a possible nine in Washington County. Of these four, Class SB has the highest water quality. These Class SB waters designate all of Bull's Bay. The quality of Bull's Bay water is attributed primarily to the undisturbed natural areas surrounding the Bay. Providing significant protection, this forested wetland acts as a valuable buffer zone. Lack of massive drainage of the areas adjacent to the Bay have also promoted clean water.

The quality of Public Trust and Estuarine waters is being affected. Fish disease such as red sore disease, and algae bloom are becoming more and more prevalent in the Albemarle system. The quality of surface waters had been of major concern due to significant algae bloom development in the Chowan River. Washington County has not experienced the extensive problems associated with Chowan County, but pockets of low dissolved oxygen have been noted in the Albemarle Sound according to NRCD Water Management personnel. These area are many times responsible for fish diseases brought on by stressful reactions

Figure 23

CLASS DESIGNATIONS FOR WATER QUALITY STANDARDS



Fresh Waters

- Class A-I - Suitable as source of water supply for drinking, culinary, or food processing purposes after treatment by approved disinfection only, and any other usage requiring waters of lower quality.
- Class A-II - Suitable as a source of water supply for drinking, culinary or food processing purposes after approved treatment equal coagulation, sedimentation, filtration, and disinfection, etc. and any other usage requiring waters of lower quality.
- Class B - Suitable for outdoor bathing and any other usage requiring waters of lower quality.
- Class C - Suitable for fishing and fish propagation, and any other usage requiring waters of lower quality.
- Class D - Suitable for agriculture and for industrial cooling and process water after treatment by the user as may be required under each particular circumstance.

Tidal Salt Waters

- Class SA - Suitable for shellfishing for market purposes and any other usage requiring water of lower quality.
- Class SB - Suitable for bathing and any other usage except shellfishing for market purposes.
- Class SC - Suitable for fishing and any other usage except bathing and shellfishing for market purposes.
- Class SD - Suitable for navigation and any other usage except fishing, bathing, and shellfishing for market purposes

Source: 1976 CAMA Land Use Plan

Figure 24
STREAM CLASSIFICATIONS

Name of Stream	Description	Classification		
		Class	Date	Index No.
ROANOKE RIVER	From 18 mile market at Jamesville to Albemarle Sound (Batchelor Bay)	C Sw	9/1/57	23-(53)
Roanoke Creek	From source to Roanoke River	C Sw	9/1/57	23-54
Roanoke Creek	From source to Main Line SCL Railroad Bridge	C Sw	7/1/73	23-55-(1)
Roanoke Creek	From Main Line SCL Railroad Bridge to Roanoke River	D Sw	4/1/71	23-55-(2)
Roanoke Creek	From source to Roanoke River	C Sw	9/1/57	23-56
Albemarle Sound (Batchelor Bay)	West of a line extending from a point of land on the southside of the mouth of Black Walnut Swamp in a southerly direction to a point of land on the east side of the mouth of Roanoke River	B Sw	9/1/74	24
Eastmost River	From Roanoke River to N. C. Hwy. 45	C Sw	9/1/57	24-1-(1)
Eastmost River	From N. C. Hwy. 45, including cutoff between Eastmost River and Middle River to Albemarle Sound	B Sw	9/1/74	24-1-(2)
Kendrick Creek (Mackeys Creek)	From source to U. S. Hwy. 64 at Roper	D Sw	4/1/61	30-9-(1)
Kendrick Creek (Mackeys Creek)	From U. S. Hwy. 64 at Roper to Albemarle Sound	SC	7/1/73	30-9-(2)
Beaver Dam Branch	From source to Kendrick Creek	C Sw	9/1/74	30-9-3
Canal	From source to Beaver Dam Branch	C Sw	9/1/74	30-9-3-1
Canal	From source to Kendrick Creek	C Sw	9/1/74	30-9-4
Canal B	From source to Main Canal	C Sw	9/1/74	30-9-4-1
Canal A	From source to Main Canal	C Sw	9/1/74	30-9-4-2
Canal	From source to Main Canal	C Sw	9/1/74	30-9-4-3

kers Swamp	From source to Ken- drick Creek	C Sw	9/1/74	30-9-5
asant Grove Creek	From source to Albe- marle Sound	C Sw	9/1/74	30-10
apel Swamp	From source to Albe- marle Sound	C Sw	9/1/74	30-11
wberry Ditch	From source to Albe- marle Sound	C Sw	9/1/74	30-12
eights Creek	From Source to Albe- marle Sound	C Sw	9/1/74	30-13
ll Bay	Entire Bay	SB	7/1/73	30-14
ull Creek	From source to Bull Bay	C Sw	9/1/74	30-14-1
leep Creek	From source to Bull Bay	C Sw	7/1/73	30-14-2
untion Creek	From source to Bull Bay	C Sw	7/1/73	30-14-3
cuppernong River	From source to mouth of Riders Creek (First Creek)	C Sw	4/1/61	30-14-4-1
occasin Canal and connecting canals	From sources to Scupper- nong River	C Sw	9/1/74	30-14-4-2
estern Canal and connecting canals	From sources to Scupper- nong River	C Sw	9/1/74	30-14-4-3
en Foot Canal	From source to Western Canal	C Sw	9/1/74	30-14-4-3 1
ine Foot Canal	From source to Ten Foot Canal	C Sw	9/1/74	30-14-4-3 1-1
ountain Canal and connecting canals	From sources to Scupper- nong River	C Sw	9/1/74	30-14-4-4
hirty Foot Canal	From source to Scupper- nong River	C Sw	9/1/74	30-14-4-5
ld Canal	From source to Scupper- nong River	C Sw	9/1/74	30-14-4-6
helps Lake	Entire Lake	C Sw	4/1/61	30-14-4-6

to change in water conditions.

Extensive damage to water quality has not occurred to date, but non point and point source pollutants are slowly damaging the quality of our surface waters. There are two categories of pollutants , point and non point, both of which are causing water quality degradation in the Albemarle System.

According to NRCD staff, non point pollutants are the most difficult to control and are causing a significant amount of the problem. Two non-point source pollutants prevalent in primarily rural agricultural areas are nutrients and sediment.

Phosphorous and nitrogen are nutrients that algae and other aquatic plants require in order to grow. If levels of these nutrients are too high, the plant production in a body of water is overstimulated and algae bloom may occur. Excessive nutrient input may occur from wastewater discharge , septic tank leakage and runoff from agricultural areas. Streams draining agricultural areas have higher nutrient concentrations than those draining forested wetlands. Comparatively, average total phosphorus concentrations for agriculture were ten times greater, mean total nitrogen concentrations were about five times greater than forested areas.

Pesticides and nutrients are used extensively in agriculture and may, under runoff conditions, be transported to streams, attached to sediment or dissolved in the runoff water. These nutrients have the potential for accelerating eutrophication and promoting algae blooms resulting in oxygen depletion.

Almost 80% of the total annual soil erosion in North Carolina comes from agricultural land. Generally, 25% of the eroded soil is discharged to large

rivers as sediment, adversely affecting aquatic organisms and reducing the carry capacity of streams and rivers, and is considered by volume to be the greatest potential pollutant.

Control of non-point source lies mainly with the property owner. Primary efforts to reduce non-point pollutants will be those of education, technical assistance and monitoring.

Point sources operate under National Pollutant Discharge Elimination System permits. Limits are derived for the level of pollutants that may be discharged from a source and they are included in the permit. A compliance schedule is provided and the industry, or point source, must develop means for compliance within the specified time period. Statewide totals from 1978 indicate that 61% of discharging facilities are now in compliance with permit limits.

Weyerhaeuser Company is considered a point source and efforts are presently underway to improve their methods of pollution control. The State Water Quality Staff has notified them of needed improvements and Weyerhaeuser is developing specific methods for dealing with requested changes.

Point sources are regulated by State and Federal agencies and must conform to emission standards, however agricultural and other non-point pollutants have no regulatory controls. Efforts are now underway by NRCD to identify the sources of pollution affecting our waters so that preventive measures may be taken to protect the quality of our surface waters. The general consensus is that many of the sources are located as far away as Virginia due to the location of 75% of the Chowan watershed within Virginia. Upstream pollution of our waters is impossible to control on the local level, thus we must depend on State agencies to assure the protection of downstream users.

Major industries and farm operations may impact water supply on another level, by the removal of vast quantities of ground water, directly affecting the water table. Presently there are no industries within Washington County drawing extensively on ground water, such as Texas Gulf in Beaufort County, but the impact of such activities is being carefully observed. Farm drainage may also have long term effects on ground water supply, but presently no data is available upon which to confirm assumptions and suspicions.

Air Resources

According to State Air Quality staff, ambient air quality standards are not being exceeded in Washington County due to the Weyerhaeuser Mill. A standard is applied to each pollutant and if industries exceed this ceiling, corrective measures must be taken. Although samples have been taken in Plymouth, not adjacent to the Mill, the major impact is from Weyerhaeuser.

How does this relate to development constraints? If our ambient air quality is poor, there is the possibility potential new industry, which might push the pollutant standards beyond an acceptable level, would be turned away. The combination of Weyerhaeuser and another industry may discourage the location of the new industry, or encourage the reduction of pollutant levels by Weyerhaeuser, so our total figure would be acceptable.

The North Carolina Administrative Code suggests that an atmosphere in which these standards are not exceeded should provide for the protection of the public health, plant and animal life, and property. As of yet, the monitoring results do not exceed required standards, although nitrogen dioxide and sulfur dioxide levels have increased over the last three years. The particulate figure of 49 micrograms per cubic meter annually is fast approaching the standard of 60 $\mu\text{g}/\text{m}^3$ (Figure 25).

The purpose of ambient air quality standards is to establish certain

maximum limits on parameters of air quality, considered desirable for the preservation and enhancement of the quality of the State's air resources, according to State Environmental Management Guidelines. Ground level concentrations of pollutants are determined by sampling at fixed locations in areas beyond the premises on which a source is located. There have been two areas, locations in Plymouth, where samples of air pollutants have been measured.

The three elements measured in Washington County include particulates, sulfur dioxide, and nitrogen dioxide. Below, is a brief description of the standards which should not be exceeded.

The ambient air quality standards for sulfur oxides measured as sulfur dioxide are:

1. 80 micrograms per cubic meter (0.03 p.p.m.) annual arithmetic mean.
2. 365 micrograms per cubic meter (0.14 p.p.m.) maximum 24-hour concentration not to be exceeded more than once a year, and
3. 1300 micrograms per cubic meter (0.5 p.p.m.) maximum three-hour concentration not to be exceeded more than once per year.

The ambient air quality standards for suspended particulate matter are:

1. 60 micrograms per cubic meter annual geometric mean, and
2. 150 micrograms per cubic meter maximum 24-hour concentration not to be exceeded more than once per year.

The ambient air quality standard for nitrogen dioxide is 100 micrograms per cubic meter (0.05 p.p.m.) annual arithmetic mean.

Steep Slopes

No lands in the County exceed twelve percent slope except where highway cuts and fills are made and along portions of the shore along Albemarle Sound west of Leonard's Point. At this location, Sound erosion has created some sharp cliffs rising to nearly seven feet in height.

Figure 25

Air Quality Data
Annual Means, $\mu\text{g}/\text{M}^3$

		<u>1972</u>	<u>1974</u>	<u>1976</u>	<u>1978</u>	<u>1979</u>
Particulates	#1	-	-	-	43	49
	#2	38	49	49	-	-
Sulfur Dioxide	#1	-	-	-	6	12
	#2	6	5	5	-	-
Nitrogen Dioxide	#1	-	-	-	18	17
	#2	21	12	12	-	-

FRAGILE AREAS

There are a number of natural areas throughout Washington County which could easily be damaged by insensitive land development. Identification of these fragile areas will help focus attention on these valuable resources as the County grows. Included as fragile areas are public trust waters, estuarine shoreline, estuarine waters, coastal wetlands, and natural areas around Lake Phelps and Pungo Lake.

Public Trust Waters - By definition, these waters are described as all waters of the Atlantic Ocean and the lands thereunder from the mean high water mark to the seaward limit of state jurisdiction; all natural bodies of water subject to measurable lunar tides and lands thereunder to the mean high

water mark; all navigable natural bodies of water and lands thereunder to the mean high water level or mean water level as the case may be, except privately owned lakes to which the public has no right of access; all waters in artificially created bodies of water in which exists significant public fishing resources or other public resources, which are accessible to the public by navigation from bodies of water in which the public has rights of navigation; and all waters in artificially created bodies of water in which the public has acquired rights by prescription, custom, usage, dedication or any other means.

In Washington County these waters are those of Bull's Bay, Albemarle Sound, the Scuppernong River, Roanoke River, Lake Phelps, Pungo Lake, Welch's Creek, Conaby Creek, and Mackey's Creek. They are among the listing of streams classified for water quality in figure 24.

The Scuppernong River, Welch's Creek, Conaby Creek and Mackey's Creek, have been damaged for fishing and navigation through poor land clearing practice. All of these streams exhibit poor water flow from siltation which has settled in the streams to block small boats and enlarge the floodplains. The finer silt remains suspended in these waters killing fish habitats and diminishing waterfowl populations.

Specific effects of development in Washington County upon the Albemarle Sound, the Roanoke River and Bull's Bay are inconclusive due to lack of data; however, recent reports by the Center For Rural Resource Development have pointed to farm drainage and sediment as one of many potential pollutants of our surface waters.

The waters of Pungo Lake are completely buffered by the federal government's Pungo National Wildlife Refuge and consequently has little adverse impact from poor land development. Lake Phelps, however, has no such buffer and has

been subject to past and present abuse.

Estuarine Waters - By definition these waters are defined in G. S. 113A-113 (b) (2) as, "all the water of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers, and tributaries thereto, seaward of the dividing line between coastal fishing waters and inland fishing waters, as set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Natural Resources and Community Development filed with the Secretary of State entitled "Boundary Lines, North Carolina Commercial Fishing - Inland Fishing Waters, revised March 1, 1965" or as it may be subsequently revised by the Legislature.

In Washington County, estuarine waters are the Albemarle Sound, Bull's Bay, and the Roanoke River. Their principal value is for recreation, particularly sport fishing.

Bluegill, white perch and other panfishes such as the warmouth and flier comprise over 70 percent of the catch. Cat fish, crappie and redbreast are next in fisherman-take. Largemouth bass, although it ranks first in preference as a game fish, comprises only about four percent of the catch, while stripped bass makes up only about three percent. (Data from the N. C. Wildlife Commission)

Coastal Wetlands - By definition, coastal wetlands are "any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses), provided this shall not include hurricane or tropical storm tides. Salt Marshland or other marsh shall be those areas upon which grow some, but not necessarily all, of the following salt marsh and marsh plat species: Smooth or Salt Water Cordgrass (*Spartina alterniflora*); Black

Needlerush (Juncus roemerianus); Glasswort (Salicornia spp.); Salt Grass (Distichlis Spicata); Sea Lavender (Limonium spp.); Bulrush (Scirpus spp.); Saw Grass (Cladium Jamaicense); Cat-Tail (Typha spp.); Salt-Meadow Grass (Spartina Patens); and Salt Reed Grass (Spartina cynosuroides). Included in this statutory definition of wetlands is "such contiguous land as the Secretary of NRCD reasonably deems necessary to affect by any such order in carrying out the purposes of this Section." (G. S. 113-230 (a))

In Washington County there are two small tracts of coastal wetlands. One is located at the mouth of Deep Creek where it empties into Bull's Bay. This area is completely surrounded by swamp and is inaccessible by means of transportation except boat. Little is known about the species of wildlife at this site. Because of the extremely poor drainage and remoteness of this area, it is very unlikely that any adjoining land use will pose serious damage in the foreseeable future. The other area is located just east of Batemans Beach. Greater impact is expected here because the adjoining land area is being developed for residential use.

Lake Phelps - Lake Phelps, located in Scuppernong Township, covers approximately 16,600 acres with 25 square miles of water surface. An integral part of Pettigrew State Park, the Lake is the second largest natural fresh water lake in North Carolina.

The lake proper is connected to the Scuppernong River by a series of canals dating back to 1787. Essentially there is no overland recharge of the lake due to its high elevation, but comes primarily from precipitation with a minimum amount attributed to underground aquifers. The average water depth is five feet with the center of the lake reaching seven feet.

Pettigrew Park located on the north west border of Lake Phelps consists of 167 acres including Somerset Place, a State Historic Site. Forty acres

of the park site, a cypress swamp, is a registered natural heritage area.

The Pettigrew Cypress Natural Area (figure 26) is an excellent example of a mature bald cypress-herb swamp. The desirability of cypress as a timber tree and general land clearing and drainage have resulted in the elimination of most mature cypress swamps. The natural area is a significant representation of a coastal plain vegetation type. According to the North Carolina Natural Heritage Program the threatened peripheral spotted pipewort (Eriocaulon Pellucidum) occurs in shallow pools within the site.

Endangered wildlife located in the Lake Phelps area includes the Waccamaw killifish (Fundulus Waccamensis), and the Black bear (Ursus Americanus), considered of special concern, has been sited also.

The major threat to this particular natural area is the potential for lowering the lake water level by a series of flood gates. If the lake level is lowered for the majority of the growing season, hardwoods will invade the draw down zone and the plant community type will gradually change.

Due to the ability of man to alter the water level at will by canal gates, there is concern for all vegetated areas surrounding Lake Phelps. This concern culminated in the nomination of Lake Phelps and surrounding area as an Area of Environmental Concern by the County Board of Commissioners.

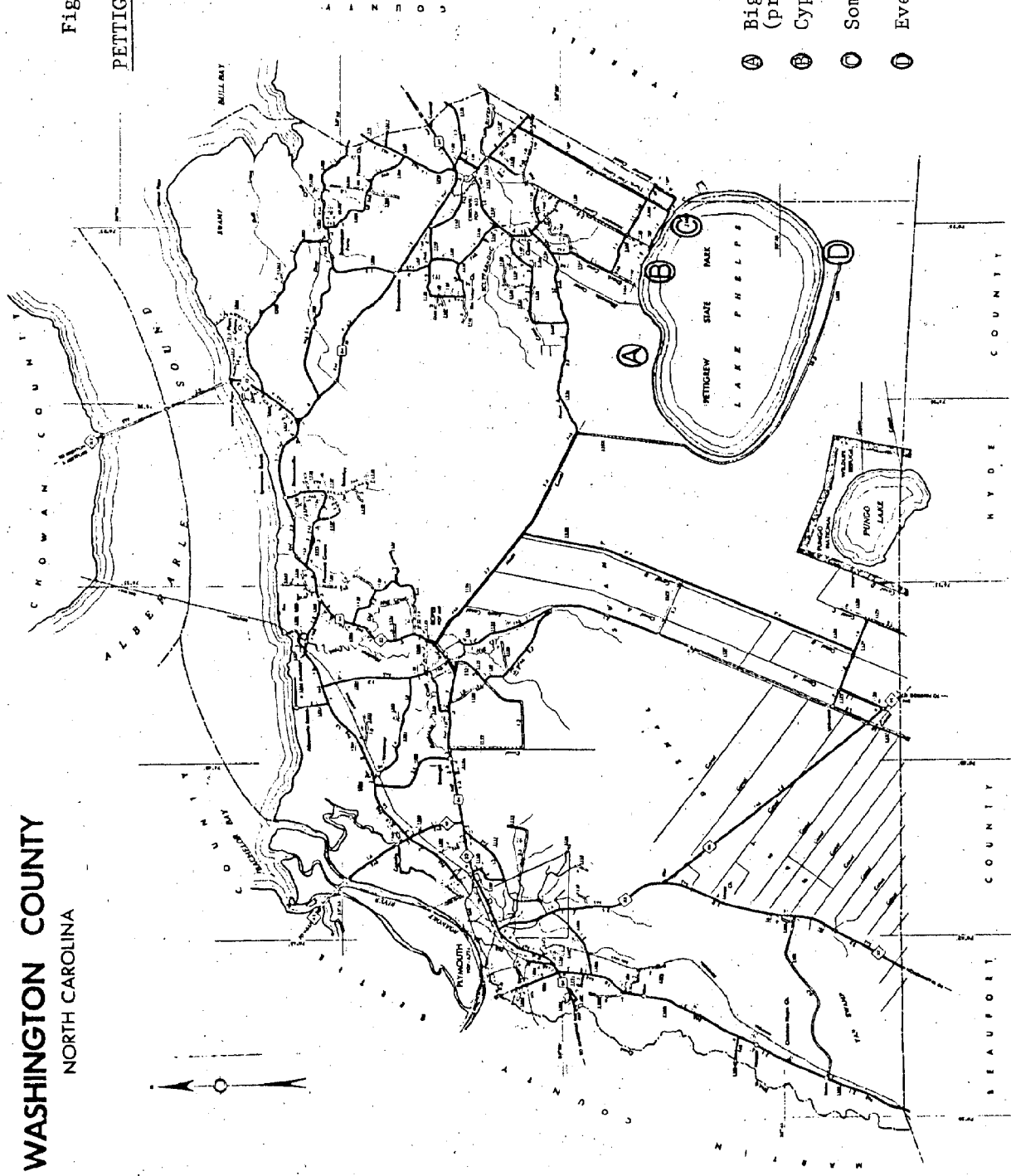
Increased vegetative alteration due to residential development and hints of algae bloom in the Lake warned of potential irreparable damage to the Lake area. These issues, along with concern over the water level, served as a basis for the nomination, as documented in "Information for Nomination of Lake Phelps As An AEC" Developed by the County Planning Office.

Subsequent information relative to lake level management was produced by the Division of Parks and Recreation and proposes varied lake levels according to the time of year and local needs.

WASHINGTON COUNTY NORTH CAROLINA

Figure 26

PETTIGREW PARK - LAKE PHELPS



- Legend
- Ⓐ Big Point Access Area (proposed)
 - Ⓑ Cypress Natural Area
 - Ⓒ Somerset Place
 - Ⓓ Evergreen Pocosin

Support for designation of Lake Phelps as an AEC is still strong.

The area included in the designation would be the Lake proper and landward seventy five feet from the 11.2 feet elevation. Within this zone, vegetation removal, septic tank location, and building setbacks would be regulated by CAMA permit requirements.

Development pressures will continue around the Lake as subdivided lots are improved and the Pettigrew Park expansion begins. Peat mining adjacent to the Lake will also generate impacts, which will be assessed in the coming months. With the institution of an AEC designation, enforcement of County Health Regulations, peat impact studies, and the implementation of the Lake Level Management Plan, impacts on the Lake can hopefully be held to a minimum.

Pungo Lake - The National Wildlife Refuge consists of 12,350 acres. The 2,800 acre Lake Pungo is surrounded by a designated natural area 1,000 acres in size.

This 1,000 acre pocosin, east of the Lake is a remnant of a large pocosin, once typical of the flatlands of eastern N. C.. Extensive cypress and white cedar swamp forest were destroyed by prehistoric fires, leaving stumps and logs and a depression now occupied by Pungo Lake. The pocosin area and lake have been designated as a natural area because of its "importance as a wildlife habitat, its representation of a protected pocosin ecosystem, and its illustration of geologic and geomorphic processes."

According to the North Carolina Natural Heritage Program, endangered and threatened species are located in the Pungo Lake Area. They include: Haliaeetus leucocephalus Bald eagle, Aquila chrysaetos Golden eagle, Falco peregrinus Peregrine falcon and Ursus americanus Black bear.

Due to the valuable natural areas, and the special character of the plant and animal life the Pungo Lake area should be preserved in the future for scientific, ecological, educational and recreational purposes.

AREAS WITH RESOURCE POTENTIAL

Identification of areas with resource potential reflects natural resources which should be used for their highest and best uses, and indicates the possibility of building industry and housing elsewhere on lands with less potential for resource production. Many areas in the County represent potential resources which can have an impact on the way lands are used. They include forestland, agricultural lands, wildlife habitat, peat resources and recreation resources.

Forest Land

There are five timber tracts located throughout the County of significant size (figure 15). One wooded area is located between Long Ridge Road and Highway 32 and is owned by Georgia Pacific and Weyerhaeuser. This will continue to be managed as timber land. A large area spanning between Highway 99 and Roper is owned almost exclusively by Weyerhaeuser. The primary large timber holding which will be converted to agricultural use is a tract owned by Juniper Farms on Newland Road. A tract adjacent to this owned by Champion International will be utilized as forestland, as will another forested area close to Roper on Newland Road owned by Union Camp and Weyerhaeuser. Bull's Bay is a forest wetland and is expected to continue as forestland.

As long as these areas are reforested and managed properly, they will continue as renewable resource areas.

Agriculture

According to figures from Soil Conservation Service and the Agricultural Extension Agency, 53% of the County's land area is used for agriculture production. The largest tracts in production lie in the eastern two-thirds of the County.

Soils in this area are highly organic and until recently, virtually undrainable. However, corporate land reclamation efforts have made these areas conducive to agricultural production.

The Washington County Soil Survey identifies County soils which are conducive to high agricultural yields, with and without management practices. Capability of soils for agricultural use are based on the suitability of soils for most types of field crops. The grouping of soils is based on the limitations of the soils when used for field crops, the risk of damage when they are used, and the way they respond to treatment. Initial classification does not take in to consideration major management activities such as mass drainage and expensive land forming.

Washington County soils which are considered to have few or moderate limitations for agricultural use according to the County Soils Survey are:

<u>SOIL TYPES</u>	<u>PERCENTAGE OF COUNTY SOILS</u>	<u>ACREAGE</u>
Altaviata fine sandy loam	3.0	6,530
Bojac loamy sand	0.6	1,220
Conetoe loamy sand	1.6	3,365
Dogue fine sandy loam	1.2	2,650
Dragston loamy sand	1.6	3,425
TOTAL	10.3	22,140

These soils are generally in small areas from 4 to 50 acres in size and are located primarily in the northern sector of the County where the majority of urban development is occurring. They make up only 10.3 percent of the County's land area.

The majority of soils within Washington County can be successfully used for agriculture with the aid of management techniques. Those requiring management are located primarily south of Highway 64 and make up 70.8 percent

of the County's soils and include the following:

<u>SOIL TYPES</u>	<u>PERCENTAGE OF COUNTY SOILS</u>	<u>ACREAGE</u>
Conoby muck	1.7	3,600
Cape fear loam	13.4	28,755
Argent silt loam	3.7	8,045
Hyde silt loam	1.0	2,115
Fortescue mucky loam	0.3	720
Pettigrew muck	2.9	6,310
Ponzer muck	0.5	1,120
Portsmouth fine sandy loam	9.3	20,000
Roanoke loam	7.2	15,550
Roper muck	3.1	6,590
Scuppernong muck	1.0	2,040
Wasda muck	3.4	7,360
Tomotly fine sandy loam	1.9	3,825
Belhaven muck	12.0	25,645
Augusta fine sandy loam	3.1	6,610
Arapahoe loamy sand	4.4	9,500
Wahee fine sandy loam	1.9	4,140
TOTAL	70.8	151,925

Natural Habitat

Washington County contains a diversity of habitats which support a wide variety of wildlife species. The area is primarily rural and intensely farmed, yet forested areas are interspersed with wetlands which are valuable to wildlife.

Dorovan muck, Dorovan mucky silt loam and Wehadkee silt loam soils are associated with wetland, wooded swamp and drainage basin conditions. These areas are important ecologically and productive as wildlife, water fowl and fish habitat areas. These soils consisting of 21,970 acres, are very sensitive, and serve an important function as natural environments and resource areas.

The intensive cropping operations on farmlands do not presently provide optimum habitat for upland wildlife, particularly small game. The potential exists for a substantial increase of most species in these areas through proper

habitat management according to the Regional Resource Conservation and Development Plan.

Waterfowl habitat areas in the County are located along the estuarine system and adjacent to our lakes. The primary wintering area is Pungo Lake and the secondary wintering area is Lake Phelps. Wood duck habitat is scattered along Conaby Creek, Mackeys Creek, Deep Creek, Bull Creek and the Scuppernong River.

White-tailed deer are common throughout the County but are abundant in the Southwestern area of the County. Black bear occupy an area running along Long Ridge Road from the Beaufort County line, adjacent to Plymouth along the Roanoke River, between Lake Phelps and Pungo Lake and areas east and southwest of Roper. Areas which are conducive to bear siting are Bulls Bay and an area south of Plymouth.

Peat Resources

First Colony Farms estimates there are 146,000 acres of fuel grade peat spanning Washington, Dare, Hyde, and Tyrrell counties. (figure 26 A)

According to a recent Research Triangle Institute study, North Carolina's Coastal Zone holds peat energy reserves which could supply 24 years of North Carolina's annual energy consumption at 1976 rates. There are approximately 3 billion tons of peat in coastal bogs or pocosins.

Peat is a material made up of partially decomposed plant material and inorganic minerals that have accumulated in a water saturated environment over a period of time, sometimes referred to as young coal.

Experimental mining activities by First Colony, adjacent to Lake Phelps, have shown that the mining of the peat is feasible, and productive cropland remains after the removal of peat. A state permit has been secured by First

Colony to mine 15,000 acres of peat, approximately 8,688 acres of which are in Washington County (figure 27). Generally peat is harvested to an average depth of 4 to 6 feet leaving a mineral soil which can be used for cultivation. The planting of these areas has produced extremely good yields.

Due to the mild year-round climate in eastern North Carolina, the peat harvesting season is 8 to 9 months, much longer than Northern European countries which are using peat for fuel and other states with potential peat resources.

Peat may be used in various ways. It may be burned as fuel after drying, processed into briquettes, pellets or coke before burning, or it can be converted into gaseous or liquid fuels. An important use relevant to Washington County is the direct combustion of field dried peat. Discussion has been extensive, and studies have been made to determine the feasibility of a peat powered generating plant in the Washington, Dare, Hyde, and Tyrrell County area.

A more promising use for peat, now being discussed, is the conversion of peat to methanol. Economic studies are now underway and should soon reveal the feasibility of producing methanol from peat. If First Colony Farms proceeds with the idea, a pilot plant one tenth scale for a projected 35,000 BPD plant, will be built in close proximity to the peat resources.

The 3,600 BPD plant will use peat dried to 50% moisture and produce 3,600 bbl (500 tons) per day of methanol from 2,200 tons of peat. It will take a plant of this size 35 years to exhaust the 15,200 acres of First Colony Farm's Phelps Field.

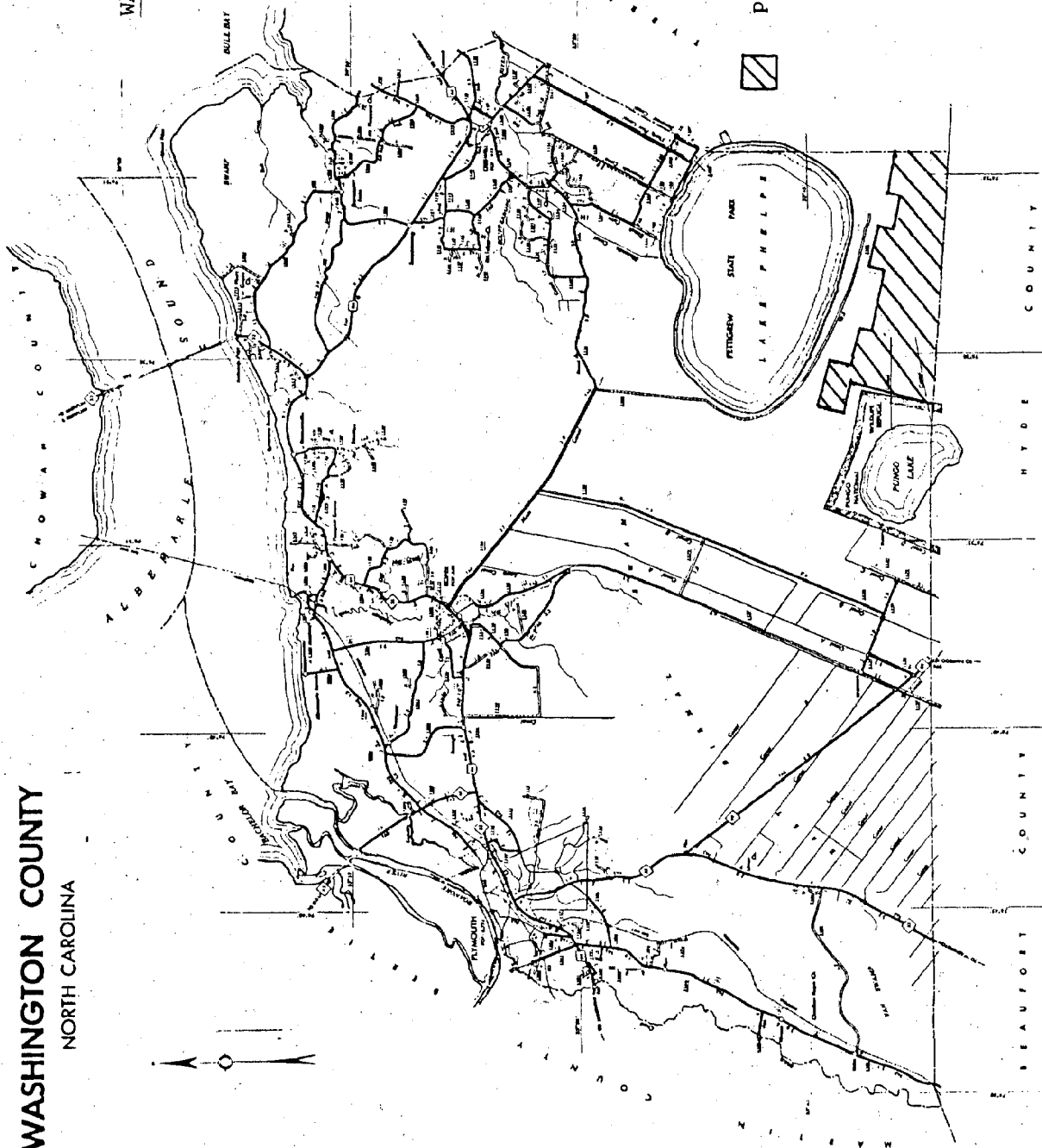
Major items of significance is the potential for cogeneration of electricity; the almost total amelioration of the air quality impacts from fugitive particulate emissions; and the supply of fuel for farming, fishing and forestry.

Peat related environmental issues posed deal primarily with hydrology, sediment runoff, fire, airborne dust and industrial pollution. The Reasearch Triangle Institute briefly addresses these issues, but detailed studies will not be available until Coastal Energy Impact Program grants get underway and First Colony Farms completes their own evaluation.

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Figure 27

WASHINGTON COUNTY PEAT RESERVES



Legend
permitted mining acreage

Recreation Resources

The Pungo National Wildlife Refuge and Pettigrew State Park are the two major public recreation lands in Washington County.

Presently the major emphasis in the National Wildlife Refuge is to provide resting and feeding habitat for migratory water fowl. Recreational uses are non intensive and include primarily deer and waterfowl hunting and nature study. Little or no fishing is done on the Lake and this will most likely continue. Future potential uses include wildlife observation towers, nature trails and environmental education facilities.

Recreation potential on Lake Phelps has been assessed during the Pettigrew State Park Master Plan preparations. The Plan reviews the existing park facilities and proposes improvements and expansion.

Attendance figures for the Park for 1976 reached 53,919 people, of which 31,206 users were boaters and fishermen. With the improvements proposed in the Master Plan, attendance will almost double to 85,000 visitors per year.

Presently all of the recreation facilities at Pettigrew State Park are located on 30 acres of the State owned 167 acre Park. After evaluating the existing site for future recreational development, it was determined there were a number of deficiencies due to the size of the area and the adjacent silted lake bottom.

An additional 82 acres will be purchased to add to the existing Pettigrew access area to develop overnight camping areas and picnic facilities. A fishing pier, expanded boat launching and parking facilities are also planned.

Big Point located on the northern edge of the Lake connected to the State natural area has potential for recreational activities (figure 26). Not presently owned by the State, the 130 acre area has a sandy deep lake area

which would be ideal for water recreation.

The Natural Heritage designated natural area joining Big Point with Pettigrew Park would be used primarily for nature study with the development of interpretive trails.

The 500 acre site owned by Division of Parks and Recreation on the southern end of the Lake is primarily a peat, evergreen pocosin. Only 50 acres of this area are suitable for recreational use, and include only the rim of the Lake. Due to the shallow nature of the shoreline, it would be difficult to use for boat launching and swimming.

The County Recreation Plan identifies potential recreation areas and access needs. For more information refer to this Plan.

COMMUNITY FACILITIES

An inventory of existing community facilities and their design capacities will assist in the assessment of future needs. Are present facilities adequate? Do they affect our ability to grow? The following information is an indication of the capacity of Washington County's public services.

Solid Waste Disposal

Presently the approved sanitary landfill site in Washington County is a 9 acre site just northeast of Westover, approximately 1 mile north of State Road 1300. The site is maintained by a private contractor who leases the land from the property owner. The site serves three counties with approximately 24,000 people.

Collection of solid waste within the landfill service area is done by a private contractor and municipalities.

Thirty-three dumpster sites are scattered throughout the County with a capacity of 492 cubic yards (figure 28). Seventy-nine commercial sites are served twice weekly. Plymouth provides collection service for residential areas, and Creswell and Roper service residential areas and commercial waste.

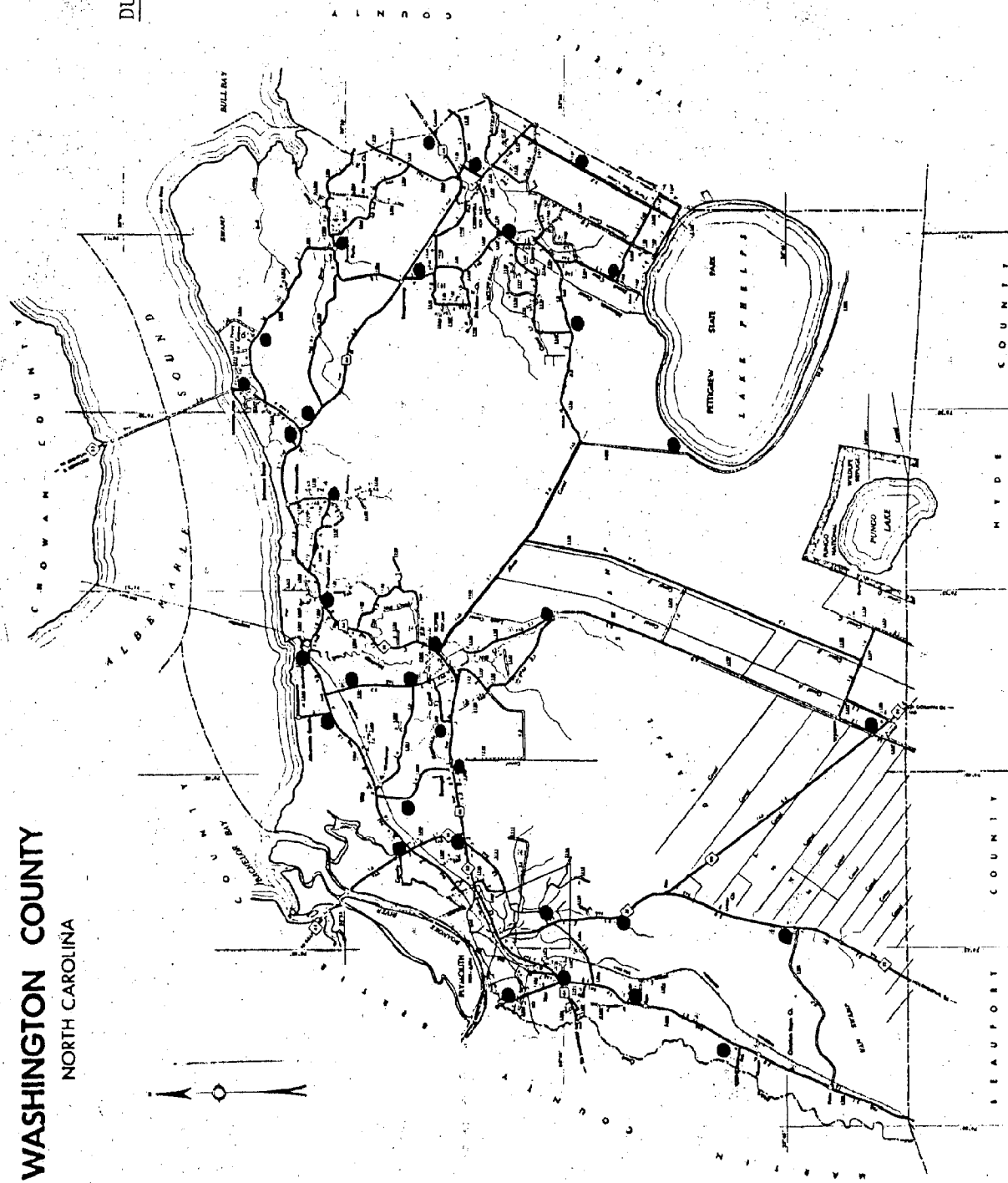
Presently some sites are inadequate for the volume of waste. More containers must be provided or more frequent pickup must be instituted to deal with present overflow.

Expansion of the nine acre site is planned for an additional 14 acres. The site is approximately 95% full thus expansion will begin shortly. The site is filling at the rate of 26 acre feet per year or about 1.1 acre per 1000 population. Estimates suggest the 14 acre expansion will be filled in

WASHINGTON COUNTY
NORTH CAROLINA

Figure 28

DUMPSTER SIGHTS



7 years. The report suggests the County review and make plans for future solid waste disposal.

Public Sewer and Water

Roper and Creswell have water service throughout all of their incorporated limits. Creswell water service also extends outside of its incorporated area to serve approximately 35 County residents (figure 28A).

The Roper water system is at 50 percent of capacity with flow rates of 150 gallons per minute from two wells. The capacity of this system is restricted by the filtering system.

The Roper sewer system which is scheduled to go into operation in July of 1980 will have a capacity of 85,000 gallons per day. An expected peak load of 85,000 gallons per day is projected to meet local needs through the year 2000.

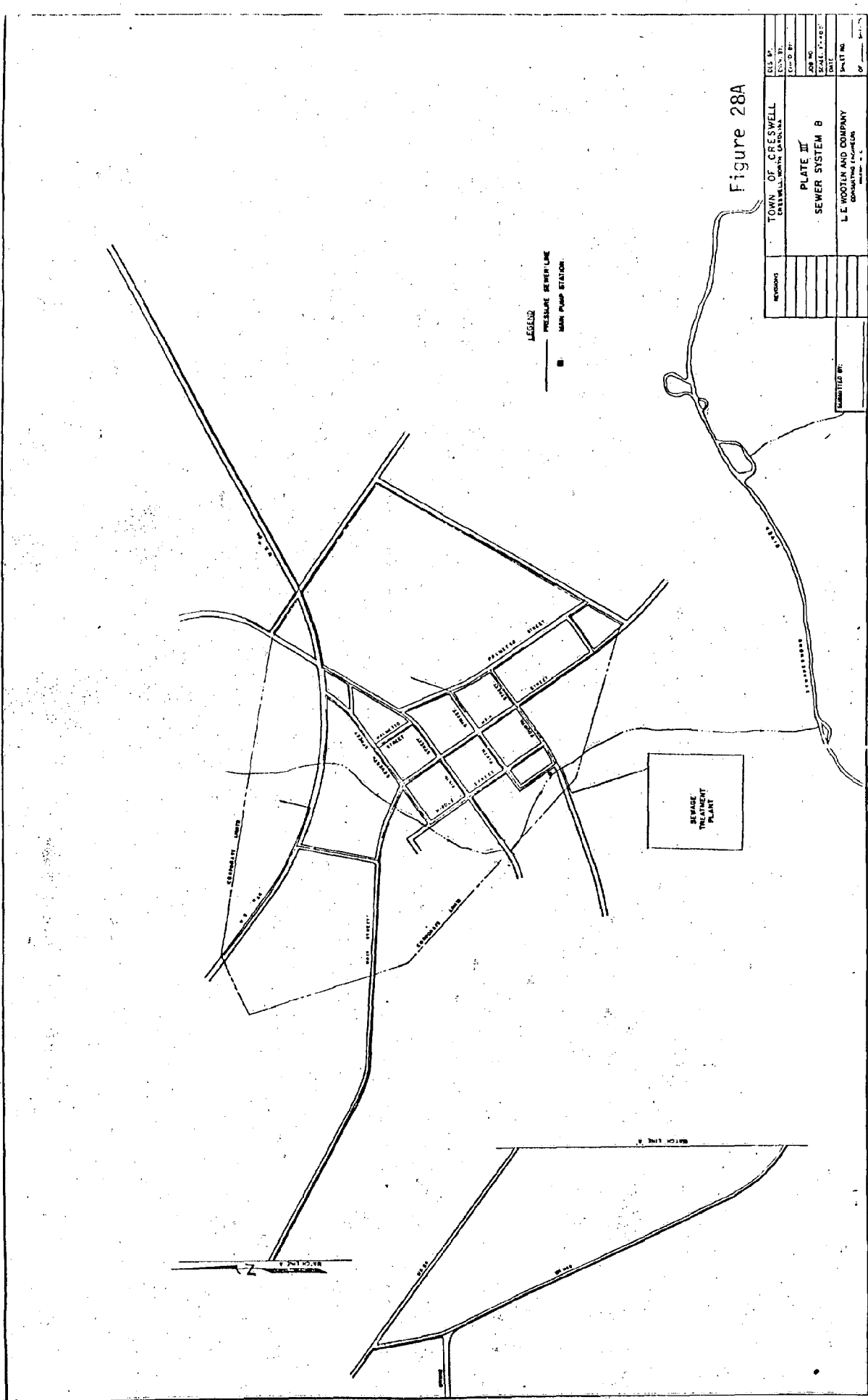
Creswell proposed to construct a pressure sewer system which will serve the needs of the town and adjoining areas through the year 2000. Construction is expected to start in 1981.

Fire Protection

Fire protection is provided by five volunteer fire departments within a four mile radius of each other for all areas of the County except the Wēnona area (figure 29).

Schools

Presently efforts are being made to assess the County's schools and outline a plan for improving them. The North Carolina State Building Code limits the amount of alteration or repairs that can be made to a building to 50% of the physical value. If more than 50% of the value is spent, then the whole building must be brought up to current code requirements for a new building.



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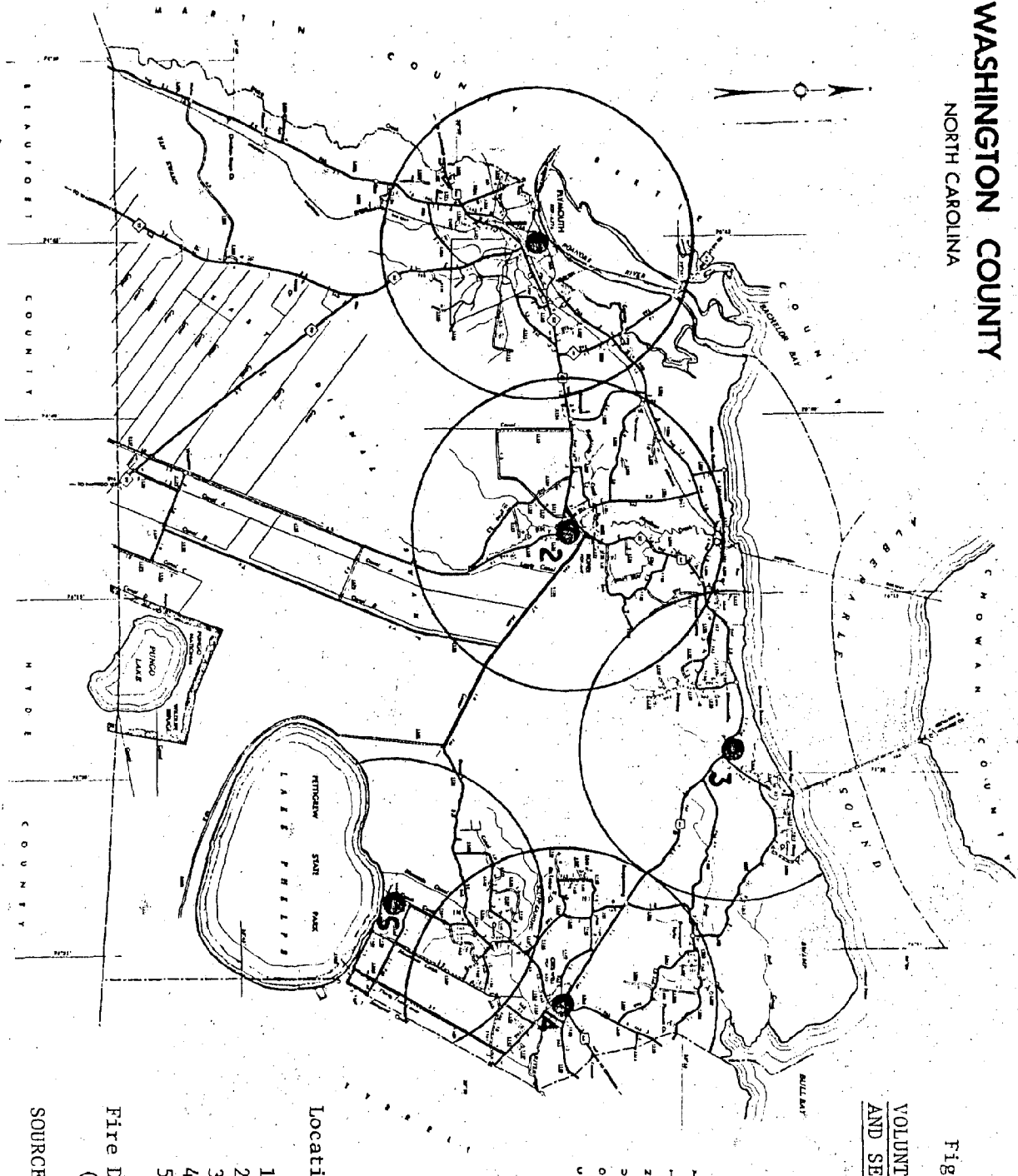


Figure 29
VOLUNTEER FIRE DEPARTMENTS
AND SERVICE AREAS

Location of Volunteer Fire
Departments

1. Plymouth
2. Roper
3. Skimmersville
4. Creswell
5. Lake Phelps

Fire Department Service Area
(4 mile radius)

SOURCE: Washington County
Manager's Office

This would include making all buildings accessible to the handicapped.

Each school has been examined by W. T. Doggett, AIA and the following conclusions derived relative to handicapped accessibility and structural problems:

Creswell Elementary - Because of the age of the building, the wood floor and roof system, the buildings poor condition, and it's small size (7 classroom), this building is not recommended for long term use. Even after the investment of bringing the building up to code, it would be suitable only for short term use.

Roper Elementary - To replace the two wood exit stairs, replace the two fire escapes with stairs, install a new kitchen hood system, replace 2 interior set of steps with noncombustible steps, replace the mechanical room ceiling and make the building accessible to the handicapped, it would exceed 50% of the buildings value. The architects' recommendation is that the building should be removed from the school system as soon as possible and should not be used over 5 years.

Fourth Street School - The main building is not recommended for long range use due to the excessive cost of correcting the Safety To Life Requirements and modifying the building for handicapped accessibility. Due to the small size of the site, 3.6 acres, the Division of School Planning would not approve replacement of the Main Building or major expansion on this site. Due to the confining boundaries of the site, a railroad and two streets, additional land would be difficult to obtain at this location. Without additional land the site should not be considered for long range use.

Washington Street School - The replacement of the auditorium floor and combustible stairs alone would exceed 50% of the building value thus replacement of the building is recommended. Annex 1 and the Gym should only be used for a short term but Annex 2 and the Band/Shop Building may be considered for long term use.

Washington County Union - Future expansion is feasible on this site and the structure is of fire resistive construction and in generally good structural condition. The school is considered suitable for long term use.

Creswell High School - Improvements can be made which will allow for the use of the main building from 5 to 15 years. Although the building has wood structural systems for floors, roof and interior walls, this is acceptable in small one story structures. The Cafeteria/Shop and Gym Buildings are also suitable for long term use with the correction of minor problems.

Plymouth High School - Considered in good structural condition the Main Building, Gymnasium, Library/ Classroom Building and shops are suitable for long term use. Future expansion on the site will be limited with any additions possibly being two story.

Figure 30 provides an indication of the capacity of each school and the adequacy of special facilities. This information, combined with the Doggett report, gives some indication of where the County is now and the County's future needs relative to schools. The culmination of the study will be a long range plan for the replacement of and improvements to educational facilities throughout the County. The intense local commitment to better education will be the impetus for instituting this plan.

Recreational Facilities

In June of 1977 a Washington County Recreation Plan was developed to assess existing recreational facilities and address future needs.

The majority of recreational facilities are located at school sites throughout the County, as shown in figure 31. Some community ball fields and play grounds also are used. Presently a 13 acre County Recreation Park is being constructed in the Pea Ridge Community on Highway 32. (figure 32).

Presently no facilities in the County are available solely for cultural recreation. With the initiation of the Washington County Cultural Arts Council, facilities are being sought for music, drama, art and literary activities. Existing community facilities proposed for use in conjunction with Council's activities include the Library, Agriculture Extension Building, Skills Training Center, High School Auditoriums, and local public parks. Efforts are now underway to secure funds to build a Civic Center which can be used by area citizens for cultural activities.

Roadways

Department of Transportation traffic counts for 1979 (figure 33) indicate

that the average number of vehicles traveling over the streets in Roper and Creswell and the major roads in the County, are well within design standards for peak capacities. However, this capacity is gained at the expense of reducing speed limits over sections of highway that cannot be widened economically, or are not under consideration for widening at the present time, such as U. S. Highway 64. So 45 miles per hour speed limits become the rule over sections that once were 55 miles per hour, and 25 miles per hour speed limits become the rule over sections that once were 35 miles per hour.

FIGURE 30

FACILITY DATA FOR WASHINGTON COUNTY

SCHOOL AND GRADES	ACRES	YEAR BUILT	ADDITIONS	PROFES- SIONAL PERSON- NEL	CLASSRMS OR TEACHING STATIONS	MO- BILE UNITS	CA- PAC- ITY*	ADEQUACY OF SPECIAL FACILITIES							MEMBER- SHIP		
								ADM. SPACE	MEDIA OR LIBRARY	MUSIC	ART	AUDI- TOR- IUM	GYM TOR- IUM	GYM NA- SIUM		CAFÉ TE- RIA	
Creswell Elem. (4-7)	16.1	1948	--	10	7	1	175	I	I					A		I	216
Creswell High (1-3, 8-12)	14.2	1939	1938, 53,59	32	22	9	520	I	I						A	I	452
Fourth St. Elem. (1-2)	3.6	1930	1955,	14	16	1	400	I	I							A	351
Plymouth High (9-12)	21.5	1958	1960, 68,70	48	35	11	790	A	A	A						I	894
Roper Elem. (1-3)	7.2	1924	1942, 59	14	13	2	325	I	I			A				I	248
Washington St. Elem. (3-6)	9.1	1930	1943, 48,52	32	29	1	725	I	I				A			I	569
Washington Union Elem. (4-8)	21.2	1953	1945, 60	36	32	1	720	I	I						A	A	695

* Permanent facilities only

The capacity for elementary pupils was computed on the basis of 25 pupils per classroom and the capacity for secondary pupils was computed on the basis of 25 pupils and 90 percent utilization.

CODE: A - Adequate; I - Inadequate

SOURCE: 1976 CAMA Land Use Plan
Membership updated 1980

WASHINGTON COUNTY NORTH CAROLINA

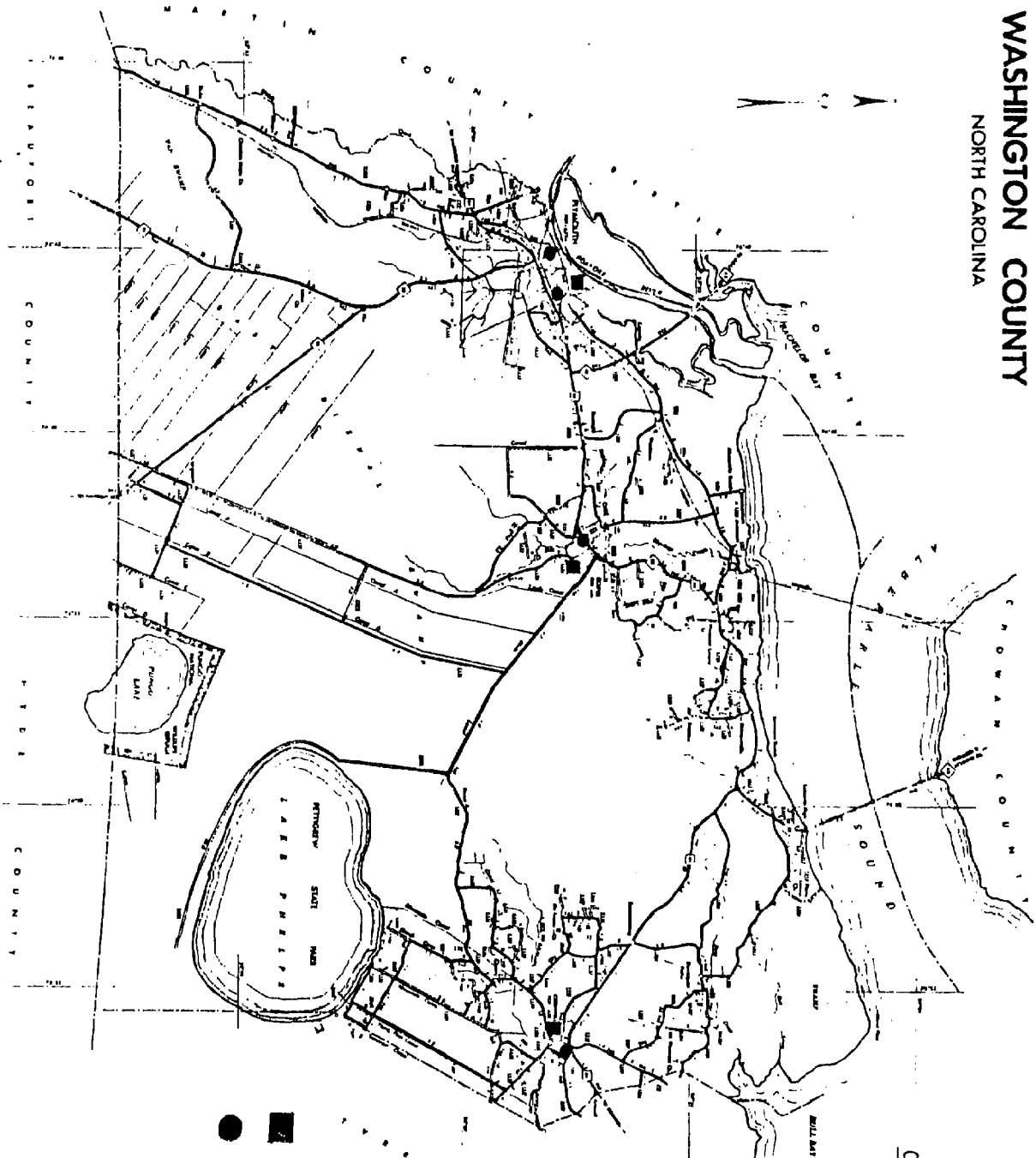


Figure 31
COUNTY SCHOOLS

- LEGEND**
- High Schools
 - Elementary Schools

Figure 32

WASHINGTON COUNTY, NORTH CAROLINA

Exhibit I	SOFTBALL, BASEBALL	BASKETBALL	FOOTBALL	ADJACENT NATURAL AREAS	PLAYGROUND W/EQUIP.	PLAYGROUND W/O EQUIP.	SHELTER	TENNIS COURTS	TRACK	SPECIAL FEATURES
EDUCATION FACILITIES										
Plymouth High School (# of acres, <u>21.5</u>)	X	Gym	X					3		Multi-purpose football Softball Field
Washington St. Elementary (# of acres, <u>9.1</u>)		* Gym			X	X				
4th Street Elementary (# of acres, <u>3.6</u>)		Gym			X					
Creswell High School (# of acres, <u>14.2</u>) 2 acres uncleared 15% 12 acres cleared 85%	X	Gym						2		
Creswell Elementary (# of acres, <u>16.1</u>) 6 acres uncleared 63% 10.1 acres cleared 37%					X					
Roper Elementary (# of acres, <u>7.2</u>) 7.2 acres cleared 100%		Gym			X					
Washington County Union (# of acres, <u>21.2</u>) 12.2 acres cleared 57.6%	X	Gym 5 goalsX				X		2		Park
NON-EDUCATIONAL FACILITIES										
Sandhills Community	X					X				
Jaycee Park	X			X			X	3		
Pea Ridge	X	X						X		
Wilson Street	X						X			
ENCOIC					X					
Housing Projects					X					

+ under construction

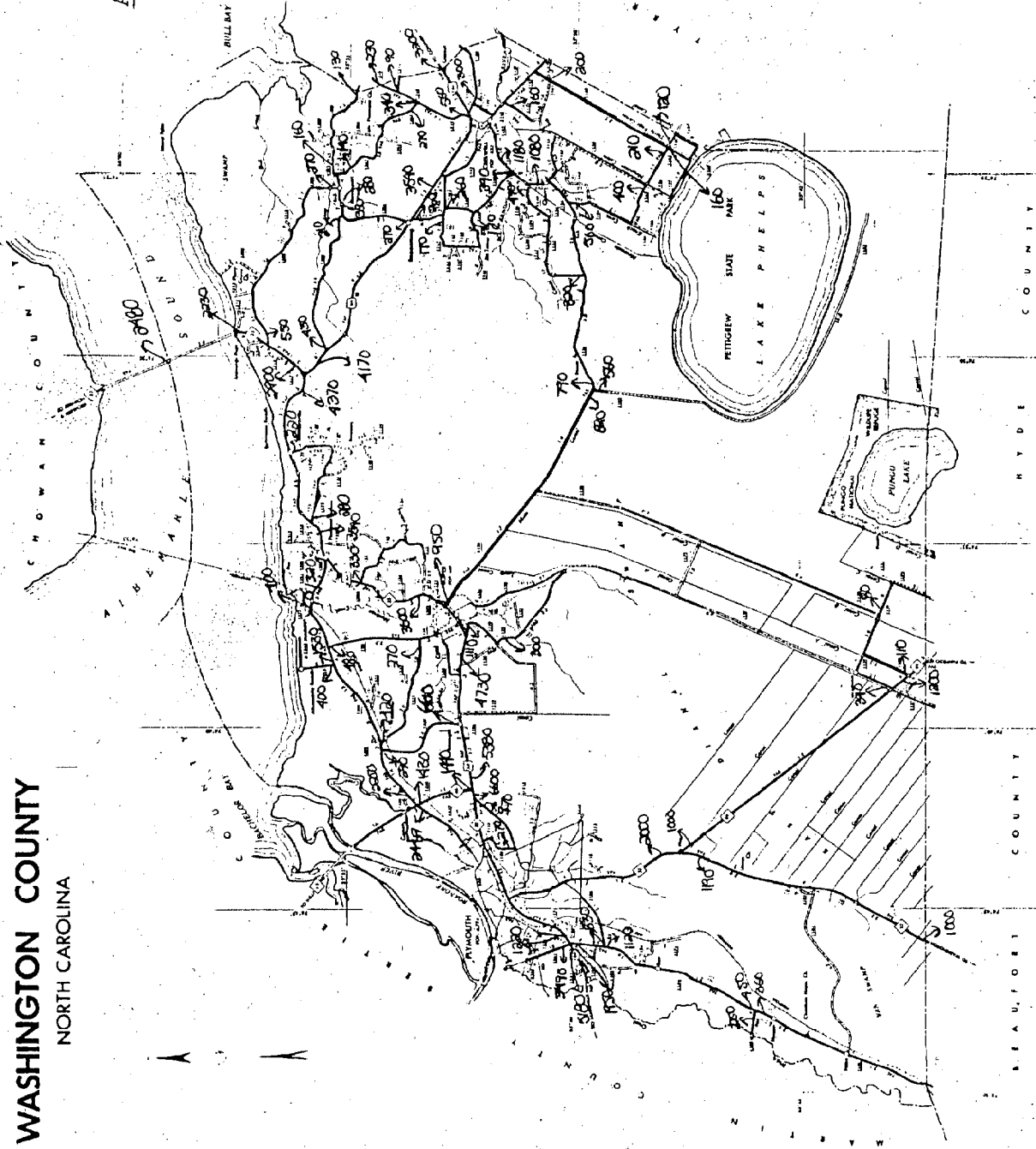
* Unpaved outside basketball court

SOURCE: County Recreation Plan

WASHINGTON COUNTY
NORTH CAROLINA

Figure 33

AVERAGE DAILY TRAFFIC COUNT
(1979)



FUTURE DEMANDS

Projected Population

Population projections for the next ten years suggest a moderate increase in County residents. This moderate growth rate is compatible with the wishes of County citizens and governing bodies. Based on Department of Administration figures and the Plymouth Roper 201 Waste Water Facilities Plan, these figures reflect an increase in population for all Townships within the County except Skinnersville (figure 34). Skinnersville Township is the only township without a municipality.

The major constraint to growth identified in the 1976 CAMA Plan was poor soils, incapable of supporting urban growth. These conditions create foundation and septic tank problems in homes and businesses, where public facilities are not available. Installation of public sewer facilities in Roper, and proposed facilities in Creswell, will assist in alleviating the problem of malfunctioning septic tanks and promote development.

The construction of multi-family housing in Roper and Creswell will boost population somewhat. The majority of units in Roper are expected to be filled by Roper residents due to the high number of substandard dwelling units, however, Creswell's units should draw residents from the County due to their high percentage of standard houses.

With the expansion of public facilities in the incorporated areas of the County much of the projected growth will occur adjacent to the Towns. New homesites in the County must be 20,000 square feet in size thus will hopefully provide adequate space for septic tanks. Subdivision review in conjunction with Health Department approval will assist in developing rural areas at a density and in areas where onsite wells and septic tanks can be used successfully.

Figure 34

FUTURE POPULATION ESTIMATES

	<u>1970+</u>	<u>1980</u>	<u>%Change</u>	<u>1990</u>	<u>%Change</u>
Washington County	14,038	15,345	9%	16,987	11%
Lee's Mill Township*	3,407	3,733	9%	4,175	12%
Roper (750)	680 ^o	850 (13%)	25%	890	5%
Plymouth Township*	7,512	8,213	9%	9,227	12%
Plymouth	4,774	5,405	13%	5,515	2%
Scuppernong Township*	1,733	1,889	9%	2,120	12%
Creswell (500)	670 ^o	530 (6%)	-20%	650	23%
Skiddersville Township	1,386	1,510	9%	1,465	-3%

* Township population includes Town population

+ U. S. Census data

o Roper and Creswell have contested the 1970 census. Figures in parenthesis represent the Towns' recommendations.

Seasonal population is not expected to be a large factor in Washington County's growth since the County is not a destination for tourist coming to the region. The most lasting impact will be upon second home development, but again the magnitude of impact will be small.

The 1976 CAMA Plan noted dwelling units along the Albemarle Sound had increased from forty units in 1951 to one hundred in 1975. In the ensuing five years, development along the Sound has increased by approximately fifty homes. Beech Bay subdivision is the primary Sound development that has been platted and recorded since 1975 and contains forty three lots. This development combined with approximately fifty undeveloped lots of record constitute the available waterfront homesites.

Any new subdivision along the Albemarle Sound will require paved roadways sixty feet in width, and lots equivalent to 20,000 square feet.

Future Economy

County labor patterns continue to show a higher level of employment for men compared to women. With increased financial pressures facing middle and lower income families, the number of women in need of, and desiring jobs, is increasing. There is a great need for industry in the County which can utilize the female work force, although some progress has been made.

Continued efforts to draw food processing and other agri-business related industries will hopefully be successful. The foundation has been laid with the increase in the capacity of commercial grain storage facilities associated with First Colony Farms and the productive hog operation owned by Tyson Carolina.

Dependence on wood products and agriculture as the basis for the County's economy is expected to continue. The emergence of peat mining and subsequent farming of the mined land should have a significant impact on the local economy as well.

Future Land Needs

In general, future trends suggest a continued increase in land under cultivation and increased urban development in the County. No large scale clearing efforts are expected, other than the Newland Road tract owned by Juniper Farms presently undergoing transformation from forestland to agriculture. Small average tracts will be logged and put into cultivation but not to the degree experienced on First Colony lands and those areas immediately west.

Demand for waterfront lots will continue, possibly at a rate of double the 1980 figures by 1990. Sufficient homesites are presently available to accommodate this increase.

Land demands in figure 35 for the 1990 population are based upon ten year population projections for each County Township. These acreage demands are only for residential housing and are shown only for areas with a projected increase in population.

Actual development could occur on less land than the amounts shown, but the maximum acreage indicates the land that should be available for development throughout each jurisdiction. More than enough land is available in Lees Mill, Plymouth and Scuppernong Townships to facilitate projected growth.

Agricultural land within Plymouth Township will eventually be converted to urban uses, especially acreage close to the Town of Plymouth. Rolling Pines and Liverman Heights are the primary subdivisions in the Plymouth area which have accommodated new residents in the past. A small number of lots are vacant in Rolling Pines, with adjacent acreage available for expansion, and Liverman Heights has fifty four vacant lots. The approximate thirty acres this provides would not facilitate the 244 households projected, but lands with adequate soils are available throughout Plymouth Township to make up the difference.

Figure 35
Future Land Demand

	<u>1980</u>	<u>1990</u>	<u>Number of People</u>	<u>Number of Households *</u>
Washington County	15,345	16,987	1,642	443
Lees Mill Township	3,733	4,175	442	119
Roper	350	890	40	10
Plymouth Township	8,213	9,227	1,014	274
Plymouth	5,405	5,515	110	30
Scuppernong Township	1,889	2,120	231	62
Creswell	530	650	120	32
Skinner'sville Township	1,510	1,465	-45	-12

*One household is estimated to equal 3.7 persons.

	<u>New Households</u>	<u>Density Per Acre</u>	<u>Maximum Land Demand</u>
Lees Mill Township	119	1 hsehd/1 acre	119 acres
Roper	10	3 hsehd/1 acre	3.3 acres
Plymouth Township	274	1 hsehd/1 acre	274 acres
Plymouth	30	3 hsehd/1 acre	10 acres
Scuppernong Township	62	1 hsehd/1 acre	62 acres
Creswell	32	3 hsehd/1 acre	10.6 acres

The Town of Plymouth has sufficient area adjacent to public utilities to meet the thirty acre demand over a ten year period, but future annexation will be necessary to meet future economic needs. Urban renewal and community development activities have assisted provision of new commercial and residential sites by removing substandard structures.

Lees Mill Township includes a good percentage of developable soils located along the Albemarle Sound and on the periphery of Roper. Subdivisions containing undeveloped lots are limited to Albemarle Beach and the Merlin Chesson tract just north of Roper. Of the one hundred lots, sixty eight are inhabited. The balance of these lots, coupled with developable land along Mackeys Road, the Albemarle Sound and adjacent to Roper will be more than sufficient to accommodate 116 households.

The Town of Roper (.9 sq. mi.) also has a more than adequate reserve of vacant land to satisfy its urban land demand. The principal kinds of existing land use in town are residential, 18 percent; commercial, 4 percent; government and semi-public, 7 percent; forest and swamp, 26 percent; row crop, 41 percent; and barren areas not under cultivation, 4 percent. The 41 percent of land for cropland equals approximately 236 acres which is more than an ample stock of land for the estimated 3.3 acres of urban land demand by 1990.

The major constraint on future development in Creswell (.6 sq. mi.) is the lack of an adequate method of drainage from swampy and flood prone areas. Floodprone areas presently constitute about 56 percent of the town's incorporated limits. Cleared and drained cropland only comprises seven percent or about 27 acres of the total land area within the existing town limits. This acreage is adequate for the estimated 10.6 acres needed for growth.

The majority of homesites in Scuppernong Township, outside of Creswell, are scattered and vary in size. The sixty acres required to meet future

demands can be accommodated on suitable soils which surround Creswell and Cherry. With proposed extension of water and sewer in the County, by Creswell, smaller lots can be used for homesites thus reducing the acreage demand.

COMMUNITY ISSUES

PUBLIC PARTICIPATION IN THE LAND USE PLAN UPDATE PROCESS

Public participation in the Land Use Plan Update process was extensive and beneficial to the development of land use issues, policies and implementation methods. Efforts were made to not only obtain information from the public, but also to inform them of the planning process and suggest County land use issues to be considered.

Initially, a meeting was held with the Board of Commissioners, Planning Board and representatives of the Office of Coastal Management to acquaint County officials with OCM's objectives and the importance of the Plan Update.

Subsequent meetings were held to determine means for obtaining public input. Various ways of involving the public were discussed. A steering committee similar to that utilized during the preparation of the Plan was considered, but due to the existence of an active Planning Board, familiar with planning issues, and also sufficiently representative of the public, they were designated as the advisory body which would work with the Planner. The Board of Commissioners, familiar with the resources of the County and the feasibility of proposed actions, were also recognized as a vital participant in the process.

Different techniques were considered for involving the public inclusive of questionnaires, brochures, radio spots, newspaper articles, public meetings, and organizational meetings. All of the methods discussed were used in some form.

The meeting format was decided upon after concern was voiced over general lack of participation by the citizenry in public hearings. Controversial issues generally bring out crowds but speculation was that the Land Use Plan would not be a drawing topic, thus efforts would be made to convince people of its importance.

An alternative means for getting people together was meeting with existing groups where a guaranteed number of persons would be present. Although interest in planning issues was not guaranteed, it was hoped we could generate interest once we had the attention of the group.

Plans were made to meet with existing county organizations, present an educational slide presentation on land use issues and the planning process, and issue a questionnaire to determine public opinion, needs and desires.

Development of participation materials began at this point. A fifteen minute slide presentation, explaining the update process and suggesting county-wide land use issues, was prepared (see appendix). In addition, a questionnaire was developed to determine public attitudes on land use issues. This was not a scientific survey or random sample. Approximately six hundred (600) questionnaires were disseminated with a 33% return rate.

A joint meeting was held at the invitation of the Board of Commissioners with Roper, Creswell, and Plymouth Town Council members. The slide presentation was shown and questionnaires handed out for review and comments. Plans were made for a meeting of special interest groups, Councils, and Commissioners to identify County land use issues.

The following groups or organizations were notified and/or represented at a special interest group meeting: Weyerhaeuser Company, First Colony Farms, Plymouth Garment Company, Williams Lumber Company, Georgia Pacific, Tyson Farms; local banks and realty companies, contractors, Carolina Telephone and Telegraph, VEPCO, Department of Transportation, Agricultural Extension Agency, Soil Conservation Services, Chamber of Commerce, Hospital, Health Department, Tax Supervisor's Office, School Board, Social Services, County Water Management, local farmers,

Wildlife Commission, Roanoke Beacon--the local newspaper, and WPNC radio.

Approximately forty (40) people attended the Land Use Plan session.

Four group leaders were trained to implement the Nominal Group Technique as a means for acquiring input from each ten member group. Each group generated a list of prioritized issues which were then voted on by the entire group to determine the top five County issues. Six issues were identified as primary concerns: drainage, environmental quality, industrial expansion, school expansion and improvement, energy use and housing. These issues incorporated land use issues specified in the CAMA guidelines.

Subsequent meetings with County professionals such as the Sanitarian, Tax Supervisor, Soil Conservation Agent, County Manager, Agriculture Extension Agents, Water Management Supervisor and the Board of Commissioners and Planning Board, and discussions with Industrial Development Commission members, Environmental Management staff, CAMA Permit Officer and others, led to the development of specific policies and implementation methods.

Concurrently, efforts were launched to obtain input from the general public. Phone calls were made to organization presidents and program chairpersons to schedule meetings over a two-month period. Radio announcements were made and newspaper articles written to request groups in need of a speaker to contact the Planning Office.

Churches, Community Organizations, Ruritans, Jaycees, Jaycettes, Home Extension Clubs, Senior Citizens Groups and PTA's were contacted. Due to conflicting meeting dates, not all organizational meetings were attended. Approximately 250 persons were reached through these meetings.

In addition, two public meetings were held, one in Creswell and another in Plymouth. Meeting dates were advertised by radio and newspaper, one hundred (100) brochures (see appendix) were mailed randomly to county property owners, and 150 were distributed door to door. Attendance was poor.

PUBLIC QUESTIONNAIRE ANALYSIS

The following information was collected from questionnaires distributed to the general public. It should be remembered when looking at the tabulation of responses on the following pages that this was not a scientific survey or random sample. Responses were tabulated according to County Townships and include municipal residents.

TABLE A
AGE AND SEX OF RESPONDENTS

AGE	SCUPPERNONG	SKINNERSVILLE	PLYMOUTH	LEE'S MILL
Less than 20	1	1	1	1
20 - 29	3	10	18	3
30 - 39	2	12	18	10
40 - 49	3	4	5	5
50 - 64	4	13	12	7
65 and over	<u>7</u>	<u>5</u>	<u>24</u>	<u>14</u>
	20	35	78	40
SEX				
Male	11	21	34	27
Female	<u>8</u>	<u>27</u>	<u>45</u>	<u>11</u>
	19	48	79	38

From the above Table, one can see that the respondents were equally divided, male and female, with the majority between the ages of 20 to 39 and 50 and over.

TABLE B
OCCUPATION

	SCUPPERNONG	SKINNERSVILLE	PLYMOUTH	LEE'S MILL
Farmer	2	2	2	6
Student	-	2	-	-
Unemployed	2	10	4	-
White Collar job	3	10	31	7
Blue Collar job	5	6	3	6
Homemaker	1	5	4	1
Retired	3	4	22	14
Other	3	5	6	4

TABLE C
RELATIONSHIP OF RESPONDENTS TO LAND AND HOUSING

SCUPPERNONG TOWNSHIP

I own property in Washington County 6 Creswell 9 Roper - Plymouth -

I own my home 11

I own rental property in Washington County 2 Creswell 1 Roper - Plymouth -

I own a farm in Washington County which I farm myself 1

I own a farm in Washington County which I do not farm myself 1

I rent my home, which is in Washington County - Creswell 2 Roper - Plymouth -

I own more than ten acres of land in Washington County - Creswell - Roper -
Plymouth -

I own my own business in Washington County - Creswell 1 Roper - Plymouth -

I live in: 19 A single family house
- A duplex
1 An apartment
- A mobile home
- A hotel, motel, boarding house

LEE'S MILL TOWNSHIP

108

PLYMOUTH TOWNSHIP

I own property in Washington County 13 Creswell 1 Roper 4 Plymouth 36

I own my home 41

I own rental property in Washington County 4 Creswell - Roper 4 Plymouth 2

I own a farm in Washington County which I farm myself 1

I own a farm in Washington County which I do not farm myself 2

I rent my home, which is in Washington County 4 Creswell - Roper - Plymouth 20

I own more than ten acres of land in Washington County 3 Creswell - Roper -
Plymouth -

I own my own business in Washington County 1 Creswell - Roper 1 Plymouth 1

I live in: 61 A single family house
1 A duplex
9 An apartment
4 A mobile home
- A hotel, motel, boarding house

SKINNERSVILLE TOWNSHIP

I own property in Washington County 24 Creswell - Roper - Plymouth -

I own my home 11

I own rental property in Washington County 2 Creswell - Roper - Plymouth -

I own a farm in Washington County which I farm myself 2

I own a farm in Washington County which I do not farm myself 1

I rent my home, which is in Washington County 4 Creswell - Roper 1 Plymouth 1

I own more than ten acres of land in Washington County 2 Creswell - Roper -
Plymouth -

I own my own business in Washington County 2 Creswell - Roper - Plymouth -

I live in: 31 A single family house
1 A duplex
1 An apartment
15 A mobile home
- A hotel, motel, boarding house

Table E deals with the popularity of various types of development. This is based on responses to a question which listed a number of types of development and asked the respondents which types they would like more or less of in the area immediately surrounding their community, and the County as a whole. In many cases, the respondents left a number of spaces blank, preferring to check only those they felt strongly about one way or the other. In the following Table, the number who checked less for a particular type of development has been subtracted from the number who checked more, and the types of development listed in rank order according to their scores.

TABLE E
POPULARITY OF VARIOUS TYPES OF DEVELOPMENT

LEL'S MILL TOWNSHIP

Near My Community

Public recreation and parks	+20
Single family houses	+19
Shopping centers	+12
Industrial	+ 8
Commercial recreation	+ 8
Small businesses	+ 7
Apartments	- 5
Condominiums	- 5
Mobile homes	-10

In Washington County

Industrial	+17
Public recreation and parks	+15
Shopping centers	+14
Single family houses	+14
Small businesses	+10
Commercial recreation	+ 8
Apartments	+ 5
Condominiums	- 1
Mobile Homes	-10

PLYMOUTH TOWNSHIP

Single family houses	+47
Shopping centers	+42
Public recreation and parks	+38
Commercial recreation	+30
Small businesses	+30
Industrial	+28
Apartments	+26
Condominiums	+ 3
Mobile homes	-25

Public recreation and parks	+41
Shopping centers	+38
Commercial recreation	+37
Single family houses	+32
Industrial	+32
Small businesses	+30
Apartments	+22
Condominiums	+ 4
Mobile homes	-16

TABLE (continued)

SKINNERSVILLE TOWNSHIP

Near My Community

Public recreation and parks	+31
Single family houses	+28
Industrial	+24
Small businesses	+21
Shopping centers	+21
Commercial recreation	+13
Apartments	+13
Mobile homes	+ 7
Condominiums	- 1

In Washington County

Small businesses	+15
Shopping centers	+14
Public recreation and parks	+14
Apartments	+13
Single family houses	+12
Industrial	+12
Commercial recreation	+10
Mobile homes	+ 7
Condominiums	0

SCUPPERNONG TOWNSHIP

Single family houses	+12
Commercial recreation	+ 9
Public recreation and parks	+ 8
Industrial	+ 8
Small businesses	+ 7
Apartments	+ 7
Shopping centers	+ 6
Condominiums	+ 2
Mobile homes	- 8

Industrial	+11
Small businesses	+ 9
Public recreation and parks	+ 9
Apartments	+ 9
Shopping centers	+ 8
Commercial recreation	+ 6
Condominiums	+ 5
Single family houses	+ 5
Mobile homes	- 9

Table D shows the results of questions, which asked the respondents to decide what they think population trends in their area will be over the next ten years and what they would like them to be.

TABLE D
POPULATION TRENDS

<u>THINK POPULATION WILL:</u>	<u>SCUPPERNONG</u>	<u>SKINNERSVILLE</u>	<u>PLYMOUTH</u>	<u>LEE'S MILL</u>
Increase greatly	9	31	28	18
Increase moderately	5	16	33	20
Remain the same	1	2	9	1
Decrease slightly	2	-	5	-
Decrease greatly	1	-	2	2
 <u>WOULD LIKE POPULATION TO:</u>				
Increase greatly	8	27	30	13
Increase moderately	9	15	37	22
Remain the same	-	1	5	5
Decrease slightly	1	1	1	-
Decrease greatly	1	-	-	-

The majority of respondents in all areas felt the population would increase and also wanted it to. Skinnersville Township would like for their population to increase greatly whereas the other Townships wish for moderate growth. This supports the growth policies adopted by the Board of Commissioners and is reflected in future population projections.

From Table E it is clear that the majority of County residents prefer single family housing and recreation facilities in their community and would like more businesses and industrial uses in the County as a whole. Mobile homes and multi-family housing is not popular in the immediate community or the County as a whole. Adopted policies relative to industrial development and housing needs were based on the results of Table E.

Respondents were asked who should pay for needed services associated with growth in the County. Table F reflects the opinions of each Township.

TABLE F
FINANCING OF IMPROVEMENTS

<u>SEWER LINES</u>	<u>SCUPPERNONG</u>	<u>SKINNERSVILLE</u>	<u>PLYMOUTH</u>	<u>LEE'S MILL</u>
Developer	7	14	33	16
Local Government	11	35	41	25
 <u>SCHOOLS AND PARK SITES</u>	 <u>SCUPPERNONG</u>	 <u>SKINNERSVILLE</u>	 <u>PLYMOUTH</u>	 <u>LEE'S MILL</u>
Developer	1	11	11	6
Local Government	18	36	57	39

Local governments policies and implementation methods reflect their desire and intentions to improve public facilities.

TABLE G
RESPONSES TO SPECIFIC ISSUE QUESTIONS

The following responses were to questions asking specific attitudes about development density and patterns.

Do you feel that different types of land uses such as residential, commercial, and industrial should be:

<u>74</u>	separated as much as possible
<u>26</u>	allowed to develop unrestricted
<u>73</u>	located where public services are available

Do you feel dense residential development should be allowed to occur where individual septic tanks and wells are used?

yes	<u>41</u>
no	<u>137</u>

Would you rather:

1. Limit growth 27
2. Promote the development of additional services such as public water and sewer systems in areas where development could not take place without such services 84

The general attitude here appears to be in favor of dense development where services are available.

In order to develop a list of issues to be addressed in the CAMA Plan Update, along with CAMA guideline issues, respondents were asked to identify the biggest problems facing their communities, as shown in Table H.

TABLE H

BIGGEST PROBLEMS FACING YOUR COMMUNITY ARE:

SCUPPERNONG

Improper functioning of septic tanks	9
Unemployment	9
Substandard housing	7
Deteriorating water quality (lakes, sound)	6
Inadequate residential sites	6
Flooding	5
Urbanization of farmland	3
Quality of drinking water	3
Environmental degradation due to development	2
Residential development along major highways	2
Poor air quality	2
Excessive seasonal traffic	1
Commercial development along major highways	1
Incompatible uses	1
*No recreation	1

SKINNERSVILLE

Quality of drinking water	37
Unemployment	36
Substandard housing	30
Commercial development along major highways	29
Improper functioning of septic tanks	27
Poor air quality	27
Deteriorating water quality (lakes, sound)	26
Residential development along major highways	26
Excessive seasonal traffic	24
Underemployment	24
Incompatible uses	24
Urbanization of farmland	23
Inadequate residential sites	22
Flooding	21
Environmental degradation due to development	12

TABLE (continued)

BIGGEST PROBLEMS FACING YOUR COMMUNITY ARE:

PLYMOUTH

Unemployment	37
Substandard housing	32
Quality of drinking water	24
Poor air quality	22
Inadequate residential sites	17
Commercial development along major highways	17
Deteriorating water quality (lakes, sound)	17
Underemployment	15
Excessive seasonal traffic	14
Flooding	13
Improper functioning of septic tanks	12
Incompatible uses	10
Environmental degradation due to development	10
Residential development along major highways	9
Urbanization of farmland	8
*Schools	2

LEE'S MILL

Unemployment	14
Improper functioning of septic tanks	14
Substandard housing	13
Incompatible uses	9
Deteriorating water quality (lakes, sound)	8
Flooding	8
Underemployment	7
Excessive seasonal traffic	7
Quality of drinking water	7
Commercial development along major highways	6
Inadequate residential sites	6
Urbanization of farmland	5
Poor air quality	5
Residential development along major highways	4
Environmental degradation due to development	3
* written in by respondent	

Unemployment, substandard housing, improper functioning of septic tanks, quality of drinking water and poor air and water quality, were all concerns which led to the establishment of the community issues addressed by the Board of Commissioners.

Table I reflects the need for more funds to be expended on public services. Respondents overwhelmingly wished for more funds to be spent on all services.

TABLE I
EXPENDITURES ON PUBLIC SERVICES

	MORE	LESS	SAME AMOUNT
Crime prevention and control	<u>124</u>	<u>4</u>	<u>33</u>
Drug control	<u>136</u>	<u>3</u>	<u>25</u>
Animal control	<u>99</u>	<u>14</u>	<u>33</u>
Traffic offenses	<u>55</u>	<u>13</u>	<u>60</u>
Assistance to elderly	<u>118</u>	<u>6</u>	<u>26</u>
Assistance to low income people	<u>89</u>	<u>19</u>	<u>32</u>
Industrial recruitment	<u>95</u>	<u>8</u>	<u>26</u>
Public recreation programs	<u>112</u>	<u>7</u>	<u>25</u>
Purchase of new park land	<u>96</u>	<u>16</u>	<u>26</u>
Fire protection	<u>108</u>	<u>2</u>	<u>39</u>
Civil defense	<u>86</u>	<u>9</u>	<u>49</u>
Rescue squad	<u>107</u>	<u>2</u>	<u>37</u>
Library	<u>81</u>	<u>4</u>	<u>42</u>
Cultural activities	<u>98</u>	<u>10</u>	<u>27</u>
Historical preservation	<u>82</u>	<u>10</u>	<u>38</u>
Public transportation	<u>104</u>	<u>8</u>	<u>24</u>
Road construction	<u>122</u>	<u>5</u>	<u>22</u>
Street paving	<u>103</u>	<u>5</u>	<u>26</u>
Maintenance of existing streets	<u>108</u>	<u>4</u>	<u>26</u>
Public sewer facilities	<u>101</u>	<u>6</u>	<u>29</u>
Curb and gutter	<u>82</u>	<u>9</u>	<u>42</u>
Traffic signals	<u>82</u>	<u>5</u>	<u>49</u>
Sidewalks	<u>85</u>	<u>5</u>	<u>40</u>
Street lighting	<u>103</u>	<u>4</u>	<u>32</u>
Drainage	<u>116</u>	<u>3</u>	<u>23</u>
Junk car removal and control	<u>126</u>	<u>10</u>	<u>19</u>
Removal of abandoned buildings	<u>119</u>	<u>9</u>	<u>20</u>
Building code enforcement	<u>83</u>	<u>5</u>	<u>39</u>
Provision of low and moderate income housing	<u>92</u>	<u>22</u>	<u>27</u>

WASHINGTON COUNTY COMMUNITY ISSUES

ISSUE: County Growth

Washington County has experienced slow growth to date with population concentration primarily in Plymouth. Creswell and Roper also are population centers but growth has been basically nonexistent in recent years. Future population projections suggest growth throughout the County, inclusive of the three Towns. Scattered rural growth will continue throughout the County due to dependence on agriculture, but dense development in the majority of our rural areas would be impossible due to the lack of public sewer and water.

Septic tanks and wells can be used in the County on individual lots of at least 20,000 square feet in area. Due to the high water table and poor soils, septic tank permits have been refused in some areas and many existing systems malfunction. The proposed provision of water by the County will ease present problems somewhat and allow for future growth in service areas. Guiding development to areas which are served with water and/or sewer will confine the majority of growth to Roper, Plymouth, Creswell and areas adjacent thereto, thus preventing massive septic tank failures and/or water contamination which might occur in rural areas.

According to the Land Use Plan questionnaire, residents expect and want moderate growth in the County. Although growth is desired, preference has been voiced for an increase in population and development at a rate and in a manner such that the rural character of the County can be protected. However, if measures are not taken to promote growth, present trends of slow to stagnate growth will continue.

Successful promotion of industry will hopefully generate desired growth. Small industry, located in proximity to the municipalities will create new

jobs to keep our young workers in the y, and promote an influx of new workers. The promotion of agriculture or commercial uses will not significantly impact population growth.

It is the attitude of the Board of Commissioners that growth should be encouraged, but, at a rate and in a pattern which can be efficiently and effectively handled by the County's facilities and resources.

Specific policies include:

1. Allowing development to occur in an orderly manner according to the County's Plans.
2. Insuring development will occur in a manner which will continue our present quality of life, and
3. Permitting intense development to proceed from presently served areas, or areas planned to be served, in a compact and orderly manner.

In order to grow, yet retain a quality of life inherent in a rural area, we must carefully evaluate steps which will promote growth and examine where we want growth to occur.

Means for implementing policies include:

1. Establish a Land Development Plan by which development proposals may be reviewed for consistency therewith.
2. Conform to the State's Balanced Growth Policy.
3. Extend public water in accord with the County's Water Feasibility Study, and
4. Support the development of utility extension policies by Roper, Creswell and Plymouth.

Primary responsibility for these activities will lie with the Board of Commissioners, the Planning Board, and the County Manager. Support for activities in Roper, Plymouth, and Creswell can only be in the form of suggestions and letters of support.

ISSUE: Industrial Development

The lack of industry in Washington County is a primary issue recognized by the professional community and the general citizenry. Not only would incoming industry reduce the tax burden on the citizens of the County, but would assist in alleviating unemployment and underemployment.

There is a demand for more jobs, better paying jobs. The future of the young people in the County must be considered. An outmigration of young adults noted in the 1976 CAMA Plan emphasizes the need, as does present economic conditions. The number of women forced to enter the working public due to economic necessity and/or by choice would also benefit from increased employment opportunities.

More realistic is the potential for bringing in a number of smaller industries, possibly agri-business related. Food processing facilities were discussed by the Boards, as were industries dependent on wood products. The recent purchase by the County of an industrial park site just outside of Plymouth will go far in the realization of such a prospect.

The mining of peat in Washington County and surrounding areas poses a very real possibility for additional industry with the county.

The present County tax base of \$160,000,000.00, with a moderately high tax rate of \$.94, suggests the need for more taxable resources. An increase in any use other than industry will not bring the necessary increase in jobs or taxable resources, thus there are few alternatives.

One option is to not seek industry, which will perpetuate our existing problems, or there is slight potential for expansion of existing industry. The increase would however be in production, not necessarily in employment.

More unreasonable would be the promotion of all industries, no matter what the type, causing potentially irreparable damage to our resources and incompatibility with the Washington County community.

The Board of Commissioners feel in order to provide increased employment opportunities for present and future residents of Washington County and an improved tax base, industry should be encouraged to locate in the County.

Proposed policies reflecting an interest in the impact of industry are:

1. Encourage industry that is compatible with the surrounding community, and will not require variance from State and Federal standards.
2. Support improved public facilities as inducement for locating industry in the County, and
3. Evaluate the impact of new industry on the County's resources.

The County needs industry. Despite this intense need, industry will be evaluated so that the environmental quality and standard of community life can be maintained.

Methods for implementing policies include:

1. Developing an evaluation criteria for new industry.
2. Continuing financial support of the Industrial Development Commission, and
3. Identifying potential industrial sites throughout the County.

A joint effort between the Board of Commissioners and the Industrial Development Commission will be an effective means for developing an evaluation criteria to be applied to prospective industries. County taxes are the primary funding source for the Industrial Development Commission. Funds for an industrial site study may be secured through HUD 701 Planning Funds or CAMA Funds. This activity would primarily be the responsibility of the County Planner.

ISSUE: Public Facilities and Services

The expansion and improvement of public facilities and services is a major issue identified by the general public and County officials.

Public services could be reduced but public sentiment supports expansion. Past efforts to reduce services to prevent tax increases has not been totally successful. The majority of services disbanded were reinstated due to strong public sentiment. Attempts to maintain services at their present level will also demand cutting programs due to inflationary program costs. Land Use Plan questionnaires suggest support for increased expenditures for almost every County service.

A tax increase is the most available means for subsidizing service improvement and expansion. Grant funds are also used to finance particular County programs and will be pursued in the future. Public opinion is with tax reduction, which would affect both means of program support, yet response to the CAMA Plan questionnaire demands improved services.

Public services and facilities should be expanded and improved to meet the needs of County residents within the capabilities of our resources, according to Board sentiment.

County policies are:

1. Develop services and facilities in concert with expected growth, and
2. Locate facilities and services where they may best serve the County's population.

In order to provide required services and facilities, the needs and desires of the public must be determined and the capability of County government to finance them evaluated.

Accepted means for accomplishing specific policies are:

1. Prepare and administer a citizen survey periodically to determine service needs. The County Manager and County Planner would be responsible for the preparation and distribution.
2. Address service needs identified through public participation in the Land Use Plan Update process.
 - a. Undertake measures with an overall goal of reducing crime in the County. Evaluate and study our existing control methods by 1983 and implement study recommendation by 1987. FUNDS: Law Enforcement Assistance Administration, Coastal Plain Resources Commission, HUD 701 Planning Funds.
 - b. Promote improvement of our transportation network in order to foster economic development. Continue to promote the widening of Highway 64 and 17, paving of secondary and primary roads, bridge improvements, improved channelization of the Roanoke River, and the extension of a railway spur into the eastern part of the County. FUNDS: Department of Transportation, Corps of Engineers, Railway Company, private industry.
 - c. Continue to improve the quality of our recreational facilities. Complete Bureau of Outdoor Recreation site on Highway 32, continue support of County Recreation Commission, and promote expeditious implementation of the Pettigrew Park Master Plan. FUNDS: County taxes, Bureau of Outdoor Recreation Funds.
 - d. Improve the structural quality and capacity of our educational facilities. Evaluate our existing facilities and make recommendation by 1983. Prepare an implementation plan by 1985. FUNDS: County Bond Referendum.
 - e. Provide water service to industrial sites and homes with inadequate water supply. Complete revised Phase I of the proposed countywide water system by 1985 and Phase II by 1990. FUNDS: Farmers Home Administration, HUD-CDBG, Coastal Plain Resources Commission, State Clean Water Bond, County Bond Referendum, Economic Development Administration.
3. Develop an evaluation criteria for the location and future construction of County facilities by first studying the growth patterns of the County to determine the best location for facilities by 1985 and second, develop a facilities plan to identify needed facilities and a capital improvements plan by 1990. A combination of County Funds, CAMA Funds and HUD 701 Planning Funds would be used.

ISSUE: Housing Opportunities

Housing opportunities in Washington County are in need of great improvement. The Washington County Housing Plan, adopted in December of 1977, provides a detailed analysis of the County's housing needs. The Housing Plan reflects an unmet need of 824 housing units based on population projection for 1980. A continued increase in population will magnify this lack of resources.

Even if Washington County's population continues to grow at a slow rate, adequate housing will not be available for its' citizens. Presently, 47% of our housing is substandard, and in 1970, over half of the residents in the County were effectively priced out of the home buying market.

These factors will place increased demand on rental property located in the County, and generate increased purchases of mobile homes. Compounding the problem is our lack of surplus housing. As reported in the 1970 Census, 32% or 56 out of 165 vacant structures for sale or rent are structurally substandard.

Few alternatives are available aside from single family homes other than mobile homes and multi-family rental units. Multi-family housing must have public water and sewer, thus the County residents have to rely on the municipalities for placement in apartments and subsidized housing. Placement of mobile homes in the County have more than doubled since 1973 and most likely will continue to increase as housing costs soar.

Washington County has demonstrated its commitment to the redevelopment of communities throughout the County with the use of Housing and Urban Development funds. Two deteriorating areas have been revived due to the foresight of County leaders. Funds will be sought in the future to assist low and moderate income families in preserving their communities and revitalizing the County's housing resources.

Continuation of housing improvements with HUD-CDBG monies becomes more bleak each year as HUD designates more funds for municipalities and less for rural counties. If we do not seek further grant funds for rehabilitation of low and moderate income housing units, they will soon be beyond repair, thus intensifying our housing inadequacies.

Present and future residents of Washington County should have the opportunity to be housed in a comfortable and safe environment.

The policies which reflect this attitude are:

1. Encourage the development of various housing types, built to quality standards, and
2. Support efforts to improve the living environments of Washington County residents.

Implementation tools for improving new housing include:

1. Supporting multi-family dwelling unit projects where utilities are available.
2. Adopting a Planned Unit Development Ordinance by 1990.
3. Continuing to enforce the existing State Building Code with Building and Electrical Inspections, and
4. Continuing to actively enforce County Subdivision and Mobile Home Regulations.

Methods for improving existing communities are:

1. Continue to seek funds such as Community Development Block Grants to improve housing and public services.
2. Serve dense development, experiencing water quality problems, with the proposed County water system according to feasibility study.
3. Continue enforcement of health and sanitation regulations.
4. Seek more Section VIII rehab units for the County.
5. Organize a seminar with the Agriculture Extension Agency and Social Services for local residents on housing maintenance and preservation by 1985, and
6. Continue drainage activities in and around residential areas.

The lack of Community Development funds will disperse the present Community Development staff, thus, responsibility for housing activities will lie with the County Manager and Planner. Funds for housing programs would come from Farmers Home Administration and the Department of Housing and Urban Development, as in the past.

ISSUE: Drainage

Due to the level terrain and high water table characteristic of Eastern North Carolina, drainage is a major problem in Washington County. Drainage directly affects the capability of much land to be used for urban, agricultural and forestry activities.

Even with drainage, many areas of the County are subject to frequent flooding due to the high water table and improper outlets. According to the Center for Rural Resource Development, only 23% of the Coastal Area does not require drainage. Approximately 32% has already been drained with 45% potentially drainable. The majority of agricultural land has been drained but 73% of our forestland is potentially drainable, as is 32% of our wetlands. If 45% of Coastal lands are drained, many problems experienced due to past drainage may reoccur.

Massive drainage has caused the clogging of streams and rivers with sediment, increased water pollution due to pesticides and fertilizers, and damage to our aquatic nurseries due to increased fresh water entering streams. Human life, health and property are directly influenced by drainage activities. Future massive drainage would no doubt have significant impacts on our natural resources and human resources.

Various policies were discussed relative to drainage. The need for protecting County residents while allowing utilization of our land was a major concern.

Methods to prevent flooding were considered, such as flood control structures, flood hazard ordinance, discouraging development in flood areas, and maintenance of drainage outlets. County plans for coping with hazards associated with flooding such as hurricanes, were reviewed and considered adequate. An Emergency Management Coordinator is retained by the County and a Hurricane Evacuation Plan was adopted in June 1977.

Concern was expressed over problems encountered due to massive farm drainage. As the water table is lowered, potential for salt water intrusion into our drinking water supply is increased.

Water that took months to filter through to the estuarine system, now flows more rapidly into our creeks and rivers, carrying with it insecticides and fertilizer from productive fields. This influx of fresh water into our sensitive aquatic nurseries has taken its toll on fisheries production.

The dicotomy is, drainage represents some negative impacts, yet provides buildable land and increased crop production, two essentials for Washington County. The long term effects of no drainage would be to basically stop growth, increase flood hazard, and encourage the use of farmland for urban uses. It is accepted that drainage must continue, but should be implemented with careful evaluation.

Policies adopted by the Board of Commissioners include:

1. Promote activities which will assist citizens in preventing damage by flooding.
2. Promote alternative means for drainage which will diminish negative impacts from pollutants, and
3. Evaluate the long term effects of mass drainage.

Means for implementing these policies are:

1. Institute flood control measures by adopting a County Flood Hazard Ordinance upon completion of our County flood study -- target date 1985.
2. Study the possible adoption of a water shed ordinance by 1985. This effort would involve Soil conservation Service, the County Water Management Supervisor and the County Planner.

3. Seek funds for the completion of the Scuppernon River, Conaby Creek and Mackeys Creek Watershed projects in the next ten years. County funds and Department of Human Resources are potential financiers.
4. Promote the preparation of Environmental Impact Statements for the Beaver Dam and Conaby Creek projects.
5. Continue the local Mosquito Control Program.
6. Promote further study of the impacts of mass drainage, and
7. Support the drainage permitting program of the Corps, CMAA and State Fisheries.

Funds for proposed drainage projects will come primarily through the Department of Human Resources and Washington County. The County Water Management Supervisor, the Corps of Engineers and the Board of Commissioners will be responsible for the projects.

ISSUE: Environmental Quality

It is difficult, actually impossible, to put a value on our natural environment. Many times damage is irreparable. The County is sensitive to this value, but is also sensitive to the desire for growth which means more development, more people. The more growth we have, the greater the potential for damaging our resources and destroying the rural character of the County.

There are three alternatives available. We can stop all development, which will assure protection of the natural environment, however the consequences would be damaging to the County's economy. A more reasonable alternative would be to develop our County with sensitivity to the existing built environment and the natural environment. Growing at a rate our resources can handle will hopefully promote preservation of our rural character. A third option is to promote any type of growth, anywhere. The potential damage to our natural environment could

be irreversible, the pressure applied to our public resources irreconcilable.

The Board's attitude relative to environmental quality reflects their feeling that we should utilize our resources according to their constraints, value to the public and greatest potential use.

This attitude of concern for our resources is reflected in the following policies.

1. Encourage the use of prime farm land for farming.
2. Encourage the careful development and use of our forestry resources.
3. Insure the quality of our water resources for recreational purposes and commercial and sport fishing.
4. Assess land constraints prior to location of a particular use to determine feasibility , and
5. Protect areas of historical value from encroachment of incompatible uses.

Implementation of these policies will hopefully ensure the conservation and protection of the natural and manmade environments and harmonize the relationship between the two.

Implementation methods includes such activities as:

1. Using soil survey in evaluating soils capability for proposed development.
2. Preparing a flood study and adopting a County Flood Hazard Ordinance.
3. Developing an evaluation criteria to be used when industries are proposed for location in the County.
4. Promote water quality standards which will insure the protection of our aquatic resources.
5. Developing improved access to public waters by encouraging the North Carolina Wildlife Commission to locate a boat landing on Deep Creek, and the Department of Parks and Recreation to improve and expand boating access on Lake Phelps, and
6. Supporting our existing forestry management programs.

The protection of our Areas of Environmental Concern and other environmentally sensitive areas is the second policy adopted by the Board of Commissioners.

Each AEC within the Estuarine System will be discussed and appropriate uses identified below.

- A. Coastal Wetlands. In Washington County, nonforested wetlands are present at the mouth of Deep Creek where it enters Bull's Bay, and east of NC Hwy. 32 near Bateman's Beach. Suitable uses shall be those consistent with the CAMA management objective relative to wetlands. Highest priority shall be the conservation of the existing coastal wetlands. Second priority shall be given to those activities which require water access and cannot function elsewhere. Rural uses exclusive of building development such as piers, utility easements, docks and agricultural uses shall be allowed.
- B. Estuarine Waters. Estuarine waters in Washington County consist of the Albemarle Sound, Bull's Bay, and the Roanoke River. Proposed uses shall be consistent with management objectives outlined by CAMA. Conservation of the waters and its vital components is of utmost importance. Uses shall be allowed which require water access or uses which cannot function elsewhere such as access channels, erosion control structures, navigational channels, boat docks, marinas, piers, wharfs, mooring pilings and bridge abutments.
- C. Public Trust Waters. These waters include the Albemarle Sound, Bull's Bay, Lake Phelps, Pungo Lake, Welch's Creek, Conaby Creek, Roanoke River, Mackey's Creek and the Scuppernong River. Proposed uses shall be consistent with management objectives. Uses which do not impair access or cause biological or physical damage to the estuary are allowed, such as navigational channels, drainage ditches, erosion control devices, piers, wharfs, marinas, and bridge abutments. Uses should be monitored to assure navigation will not be hindered, erosion will not be perpetuated, and water quality will not be degraded.
- D. Estuarine Shoreline. A strip of land 75 feet wide from the normal water level of Albemarle Sound, Bull's Bay and the Roanoke River. This area should be managed to ensure shoreline development is compatible with the nature of estuarine shorelines and the values of the estuarine system. Uses allowed should primarily consist of recreational and rural uses. Low density housing development and commercial uses which will not perpetuate severe erosion shall be allowed.

Other Valuable Natural Areas within Washington County which should be protected include:

- A. Lake Phelps. The County's commitment to protect its valuable natural resources is evidenced by attempts to nominate Lake Phelps as an Area of Environmental Concern. Information relative to the value of the Lake Phelps area is in the Land Suitability Section. Concern over

increased residential development may be quieted as commitment to enforcement of the septic tank regulations has been made. Much of the border surrounding the Lake is primarily organic soils which are unsuitable for septic tanks. Peat mining south of the Lake has generated concern as to the impacts on the Lake area. Funds have been secured through the Coastal Energy Impact Program to study the impacts and develop a mitigation plan. The Board is committed to seek further funds to study the impact of peat mining on the Lake through the Coastal Energy Impact Program and to pursue their nomination of the Lake area as an Area of Environmental Concern.

- B. Pungo Lake. Recently named in the North Carolina Registry of Natural Heritage Areas, 4,000 acres of the Pungo Lake Refuge has been identified as a valuable natural area. Presently under State and Federal controls, the Lake is adequately protected by a wide natural buffer.
- C. Forested Wetlands. Located throughout the County along the Scuppernong River, Bull's Bay, Conaby Creek, Pungo Lake, Lake Phelps, Mackey's Creek, and Chapel Swamp Creek are forested wetlands, these areas are presently under the controls of the Army Corps of Engineers. Wetlands are sensitive areas which should be watched carefully as the County develops. Presently the County plans to take no specific measures relative to forested wetlands other than to recognize their sensitive nature and encourage the Corps of Engineers and the Office of Coastal Management to require careful analysis of the impact of activities prior to permitting.
- D. Historical Areas. Historic resources are listed in the Appendix. Historical areas should be preserved and protected from encroachment of incompatible uses. The Division of Archives and History is responsible for the preservation of such significant areas as Somerset Place. Past efforts by local citizens to preserve such landmarks as the Latham House in Plymouth have been very difficult. Initial funds have been secured through a Historical Preservation Grant to assist in the rehabilitation of the home but much more is needed. Frankly, the only successful efforts have occurred where Archives and History have taken an interest in a particular site. Efforts should continue to involve Archives and History, as Washington County does not have the resources to finance such projects. Few means are available to protect historic landmarks from incompatible development other than the purchase of adjacent land by local government and concerned citizens, or zoning. Again, our monetary resources are few, thus we much depend on private citizens or grant funding. Zoning is not feasible at this time due to its inability to resolve problems relative to agricultural uses. Future review of new development in accordance with the Land Use Plan by the Boards may assist in encouraging location of uses not compatible, away from historical areas. The Board will continue to support the interest and activities of the local Historical Society and individual citizens.

Implementation methods for the protection of our AEC's and other sensitive

areas are:

1. Continue to support our local CAMA Permit Officer.
2. Support careful evaluation and required permitting of activities in our environmentally sensitive areas by the Corps of Engineers, State Fisheries and the Office of Coastal Management.
3. Enforce the health regulations relevant to septic tank placement.
4. Protect areas by guiding the location of new development in accordance with the CAMA Plan.
5. Seek CEIP and CAMA Funds to evaluate and protect our resources, and
6. Request a Countywide Natural Heritage Survey.

ISSUE: Energy Resources

A local issue, as well as a national issue, is the need to conserve our existing energy resources and to identify and develop new resources. Continued dependence on fossil fuels will significantly hamper growth and possibly reduce local crop production due to fuel cost.

Easily identifiable energy resources throughout the County include peat, wood, corn, chicken and swine manure, and garbage. All have reasonable potential as alternate energy resources, but feasibility of development cannot be determined without further study. Studies conducted by the Research Triangle Institute and First Colony Farms do recognize peat as valuable and developable.

Development of alternative energy resources to reduce dependence on fossil fuels appears to be the primary action that can be promoted on the local level. With reduced energy cost and a plentiful supply of resources, Washington County may be more appealing to industry.

Another consequence of rising energy cost mentioned was the impact on agricultural production. The extensive amount of fuel used to harvest and transport agricultural products, and the rising cost, may eventually reduce production. Hopefully, locally produced alternative fuels at a reduced cost, can provide the needed impetus to continue increased crop production.

The County's policies relative to energy resource development include:

1. Evaluate our energy resources so that we may plan for effective utilization,
2. Evaluate the impact of the development of our energy resources on the surrounding environment to ensure future quality, and
3. Promote the development of locally produced alternative fuels.

Future action relative to these policies will be similar to present activities involving peat mining within the County. The Board supports the development of such resources, but not unrestricted development. When there are 146,000 acres of peat deposits spanning four counties, the best approach is a conservative one.

Washington County supports the careful evaluation of the mining activities, and recently has received a grant to assess the impact of peat mining on Lake Phelps as an Area of Environmental Concern. The attitude of the Board of Commissioners as specified in the Coastal Energy Impact Program grant application is; through careful and persistent analysis, we can protect a valuable and unique resource, yet provide for the increasing energy needs so necessary for the future.

Implementation methods are:

1. Seek grant funding for an evaluation of our developable energy resources.
2. Support the preparation of an Environmental Impact Statement for energy development projects, and
3. Seek funds to assess the impact of proposed energy projects on the County's socioeconomic and environmental resources.

The Department of Energy Programs and the Coastal Energy Impact Program would be the primary funding sources for such activities. The County Manager, County Planner and the Board of Commissioners would be responsible for initiation of projects.

The necessity of educating the public as to the need and means for energy conservation has been discussed as a policy. Present educational programs through the Department of Energy and the Agriculture Extension Agency are considered valuable to the County. No new programs are planned on the County level, but an energy coordinator will be identified to collect and retain information concerning energy programs for public use. The County will also continue its

insulation permitting procedure through the Building Inspections Program.

Plans are to assess the County's energy assets and liabilities and develop a strategy for improving the energy efficiency of County government, an activity coordinated by the County Manager.

The final energy related policy is to encourage residential and light industry in close proximity to support facilities. This can be achieved through locally adopted water and sewer policies and by the eventual designation of areas adjacent to Roper and Creswell as growth centers.

ISSUE: Public Participation

Public participation has played an important role in planning issues in the past and will continue in the future.

Education is an important aspect of this involvement, although difficult in a rural area with a scattered population. Dissemination of educational brochures and radio and newspaper coverage are the most generalized method for reaching the largest number of people. Materials placed in the library, or other public places, also provides an opportunity to become enlightened on County issues. The distribution of a questionnaire periodically to request public needs and desires can also be used as an effective educational tool.

Requesting the public's involvement, personally contacting individuals by mail or phone, can many times encourage citizens to gather for public meetings where they may receive information and become involved. Legal advertisements, for public hearing located in a noncentral area, are not viable means for involving the public. Whenever possible, holding meetings in a community that will be affected by a particular issue, or addressing organized groups in an area are more valuable and effective.

Without a competent staff person to provide advice and expertise, public education and participation activities may not be successful. A responsible party who does not understand the importance of citizen involvement will lack the enthusiasm and interest needed to develop an effective program.

The County recognizes the direct relationship of planning issues to the public, and feels the need to create better communication between citizens and local government.

The Board of Commissioners consider the following as feasible means for implementing this policy:

1. Assure citizens representation on decision-making boards.
2. Inform the public of County issues on a regular basis by the use of radio announcements, newspaper articles, letters, brochures, slide presentations and personal contact, and
3. Support a qualified planner to coordinate and develop effective educational and participatory activities.

COMMUNITY ISSUES IN ROPER AND CRESWELL

Public participation in a comprehensive planning process for Roper and Creswell began in 1978 when community development workshops were held in each town. Forty-three citizens provided the input for establishing a list of needs, goals, and strategy for each of the towns. In addition, the concept of working together and pooling resources was adopted.

Since that time, the Town Councils of Roper and Creswell have held periodic joint meetings. They have shared planning and management resources while pooling support for mutual projects.

The preparation of this document provided an opportunity to validate and revise previous efforts. Several public participation processes were used:

1. A joint public hearing was held in Creswell for citizens of both towns.
2. A Land Use Plan Questionnaire was distributed by the Washington County Planning Office. Those questionnaires returned by Creswell and Roper residents were tabulated and analyzed.
3. Creswell used a resource allocation process called the Creswell Money Game. This process involved the placing of a large list of local government issues in the Tax Listing Office. Each issue had an envelope attached to it.

During the tax listing period (January 1980) each tax lister was given an opportunity to participate. They were given a limited amount of fake money to spend on the various issues. Limited resources combined with numerous needs forced them to establish priorities.

4. Roper distributed a questionnaire to each family in town as an attachment to their water bill in 1979. This input was considered current for this plan.
5. Various organizations were provided with programs on the Land Use Plan Update by either Washington County or Town Planning officials.

In addition, all Town residents were afforded the same opportunities as County residents to participate in the County's public participation process.

The input generated by these various processes was considered in establishing issues, goals, and policy.

Resource Protection Issues in Roper

ISSUE: Constraints to Development

Roper's major constraint to development has been the health hazards caused by septic tank failures. This problem should be eliminated during the summer of 1980 when a new municipal sewer system is placed into operation.

Poor drainage and soil conditions represent severe limitations for development. Most of Roper's soils are Wahee fine sandy loam which is poorly drained, has slow permeability, and moderate shrink-swell potential.

Flood prone areas are restricted to the areas directly adjacent to Mill Creek and Deep Run. Most development has occurred above the flood area. The exception being mill related businesses which used water as a source of power and a means of transportation. These operations have been terminated.

GOAL: The elimination, reduction or avoidance of constraints to development.

POLICIES:

1. The Town's governing board will operate and maintain a municipal sewer system to prevent the discharge of sewage into the surface and sub-surface waters of Roper. The operator for this system has been hired and is in training.
2. The Town Council and Washington County Health Department will enforce regulations requiring all structures containing toilet facilities to connect to the municipal sewer system.

3. The Town Council will seek funds to implement the proposals contained in a comprehensive drainage plan being prepared for the Town. U. S. Soil Conservation Service, Albemarle Resource Conservation and Development District, and Washington County are being investigated as sources of funding.
4. Utilize existing resources such as CETA employees, local government employees, local equipment and Powell Bill funds to implement minor drainage projects such as cleaning ditches and tiles.
5. Encourage all property owners to use good soil conservation and drainage practices on their property.
6. Participate in the National Flood Insurance Program.
7. Promote floodproofing of structures which are located in areas subject to flooding. This will be implemented by the Roper Planning Board through regulations such as the Mobile Home Ordinance and Subdivision Regulations.

Alternate policies considered while selecting the above policies were:

1. Do nothing and let development occur or not occur without direction of regulation. This was rejected as not being in the best interest of the public at large or individual citizens.
2. Install a storm drain system for the entire town with all streets curbed and guttered. This was rejected as not being within the forecastable resources of the town during the planning period.

ISSUE: Areas of Environmental Concern

The Town of Roper does not have any designated AECs other than the public trust waters of Mill Creek and Deep Run. Appropriate uses shall be those which do not impair access or cause biological or physical damage to the estuary such as drainage channels, erosion control devices, piers, wharfs, marinas, bridge abutments, and utility crossings. Uses should be monitored to assure erosion will not be perpetuated and water quality will not be degraded.

ISSUE: Other Hazardous Fragile Land Areas

There are no hazardous or fragile land areas which are being considered

for nomination as areas of environmental concern within Roper's jurisdiction. Freshwater swamps and marshes, maritime forests, and man-made hazards were not identified as issues of concern.

Cultural and historic resources were not identified as specific issues in Roper.

ISSUE: Hurricane and Flood Evacuation Plans

Roper will participate in hurricane and flood evacuation planning with the County. Local resources such as public buildings and equipment would be available to the County Civil Preparedness Office to help with any influx of people evacuating the Outer Banks. As a matter of policy, the Town Council has gone on record as supporting and encouraging the funding of a County Civil Preparedness Officer. When funds for this function were cut from the County Budget in 1979, the Town Council instructed the Mayor to ask that they be reinstated.

RESOURCE PRODUCTION AND MANAGEMENT ISSUES IN ROPER

ISSUE: Productive Agricultural Lands

Farming, with its use of large equipment and chemicals, represents a compatibility problem in a compact residential area like Roper. The size of plots and proximity to housing will probably make the use of existing agriculture land unfeasible for long range crop production.

Since the County has adopted policies for the preservation of prime agricultural land, Roper's existing farmland could best be used for development which might otherwise locate on prime rural farmland.

GOAL: To reduce compatibility problems caused by farming operations inside Roper's Town Limits.

POLICY: Encourage the conversion of agricultural land in Roper to other uses such as residential, commercial, industrial and institutional in order to preserve prime farmland in the county.

ALTERNATE POLICY: Since farming in rural towns is common, don't get involved with the issue.

Commercial forest lands, mineral production, fisheries, and off-road vehicles were not considered relevant.

ECONOMIC AND COMMUNITY DEVELOPMENT ISSUES IN ROPER

Virtually all of the input received from the various public participation processes dealt with economic and community development issues. The following information is ranked in the order of priority established from public input:

ISSUE: Streets and Related Drainage

Due to the very limited financial resources of Roper, streets and related drainage have been neglected for many years. Most areas next to the streets are higher than the streets. There are very few graded ditches to carry water to the outlet ditches. Large trees on the sides of streets are damaging the streets with their roots. In addition, the installation of graded ditches will be impossible without removing these trees.

GOALS: To upgrade the streets and drainage system.

POLICIES:

1. Prepare a comprehensive drainage plan which will include street related drainage.
2. Request technical assistance from the U. S. Soil Conservation Service in determining elevations and drainage patterns, etc.
3. While the sewer system is being constructed make very few repairs to streets. This will allow for the accumulation of Powell Bill funds for use in street work after damage from sewer work is completed.
4. Utilize repair and replacement funds included in sewer grants to upgrade streets and drainage.
5. Seek Community Development Block Grant Funds to improve drainage and access to designated areas.

ALTERNATE POLICIES:

1. Let individuals take care of draining their property.
2. Accept the condition as natural and unsolvable.

ISSUE: Police Protection

Roper has used its very limited resources to provide a part-time police officer. This level of service is inadequate in view of rather serious crime problems. Residents are concerned with increased drug traffic and vandalism.

GOAL: To increase the amount of police protection offered in Town.

POLICIES:

1. Implement an agreement with the County to combine Roper, Creswell, and Washington County police services.
2. Seek grant funds to allow the Washington County Sheriff's Department to expand service in the Town.
3. Support the Crime Watch Program which is being sponsored and organized by the Roper Ruritan Club.

ALTERNATE POLICY: Reduce other services and use local funds to increase police protection.

ISSUE: Economic Development

There are very few employment opportunities in the Roper area. This is a severe problem for young people and women seeking primary or second family incomes.

GOAL: To provide additional employment opportunities in the area.

POLICIES:

1. Encourage new industry to locate in or near Roper. The most needed type of industry would be environmentally clean companies such as clothing manufactures, electronic assembly companies, and agricultural processors which employ unskilled and semi-skilled women and young people.
2. Support the Washington County Economic Development Commission in its efforts to secure a site for an industrial park and to attract industries to the County.

3. Promote efforts to improve the qualifications of unskilled workers.
4. Encourage owners of land which is suitable for business or industry to make sites available. Several sites have been identified as suitable and available.
5. Utilize the Comprehensive Education and Training Act to provide jobs in Roper. The Town has worked with Washington County and the Albemarle Regional Planning and Development Commission to secure several positions.

ALTERNATE POLICY: Let the county worry about economic development.

ISSUE: Housing

Roper has a pressing need for improved and expanded housing. Housing for the elderly, handicapped and low-income presents a particular problem which must be met with housing assistance programs. The U. S. Department of Housing and Urban Development has recognized Roper's need for additional assisted housing.

The most desired type of housing from the governing body's point of view is privately owned taxable property.

GOAL: To improve the housing situation in Roper.

POLICIES:

1. Prepare Community Development Block Grant Application for housing related projects. Roper has been unsuccessful with this program in the past years. As each new funding period comes up, the Town Council will investigate the chances of using this resource.
2. Continue to work with the Mid-East Regional Housing Authority to meet the assisted housing needs of the town.

An architect is now working on plans for 30 units of housing which will be funded by HUD. A site has been located and construction is expected to start in 1980. Mid-East will operate these units. This project should meet the present assisted housing needs. If additional needs are identified, they will be addressed by the Planning Board in cooperation with the Mid-East Authority.

3. Encourage local property owners to develop lots for residential construction. The Town Council has worked with several property owners to have sewer lines provided to vacant lots as an inducement to development.
4. Provide public with information about funding sources for residential construction. Through personal contacts, news letter articles and public hearings, the Town Council will provide information about such programs as Farmers Home Administration home loans.
5. Enforce regulations which control and improve the quality of housing. Subdivision Regulations along with various building codes are enforced in Roper by Washington County. A Mobile Home and Travel Trailer Park Ordinance has been prepared for the Town which will also be enforced by both the Roper Planning Board and Washington County Officials.

ALTERNATE POLICIES:

1. Allow growth to occur without direction or regulation.
2. Let individuals provide for their housing needs without help.

ISSUE: Public Services

During the next ten years, Roper will offer most of the public services normally found in larger urban areas. The level of service, along with the ability to provide service for new development will be limited by the small local tax base.

GOAL: To provide adequate services to the existing population while providing the required services to encourage and support a moderate growth rate.

POLICIES:

1. Water and sewer will be available to virtually every property line within the corporate limits. Both systems will have enough excess capacity to provide for a moderate rate of growth for residential, commercial, industrial and institutional users.
2. A tentative agreement has been approved by the Town Council to provide municipal water service to areas outside the corporate limits. If sewer services are needed outside the corporate limits, a similar agreement could be arranged.

3. Sanitation, police, transportation and other public services will be provided to the highest level possible within local resources.
4. Roper's commitment to redevelopment of developed areas has been demonstrated by the use of Economic Development Administration funds to demolish dilapidated buildings. This commitment has and will continue to cause the Town Council and Planning Board to investigate sources of funds for redevelopment projects. Some of the sources being considered are Community Development Block Grants and Farmers Home Administration Business Loans.
5. Roper endorses the county's efforts to study energy facility siting and development. The town may seek grant funds to study energy siting and impact if future developments warrant such studies.

ALTERNATE POLICIES:

1. Forget about future services until they are required or demanded by the public.
2. Concentrate on service to encourage new development at the expense of existing population.
3. Let the County worry about areas outside the corporate limits. the Town Council recognizes the mutual needs of the County and Town and is committed to working together to find solutions.

ISSUE: Recreation

Roper residents expressed a great deal of concern for additional recreational opportunities. The Town Council did not feel that local revenue will allow the town to provide programs beyond what the County offers. A donation was made to the Community Schools program to provide additional cultural and recreational activities.

CONTINUING PUBLIC PARTICIPATION IN ROPER

The Roper Town Council is committed to seeking the widest possible public input in all areas of public decision making.

ISSUES: Public Education On Planning Issues

GOAL: To fully inform the public on planning issues.

POLICIES:

1. Roper will follow its adopted Public Participation Plan in preparing notices and holding public hearings.
2. The Town Newsletter will be used to provide information about planning issues.
3. All citizens are encouraged to attend Planning Board and Council meetings.

ISSUE: Continuing Public Participation In Planning

GOAL: To involve as many people as possible in planning Roper's future.

POLICIES:

1. In appointing members of boards and committees, the Town Council will seek a cross-section of persons to represent all segments of the population.
2. Use the Town Newsletter (which is mailed to all water customers monthly) to keep the public informed about planning efforts.
3. Provide public service releases to the local media.

ALTERNATE POLICIES:

1. Let the public find out for themselves about planning issues.
2. Only involve those persons who are perceived to know what they are doing in planning work.
3. Don't confuse the public with facts.

SPECIAL ISSUES IN ROPER

The Coastal Resources Commission has specified that Roper address the issues of septic tank suitability and a central water and sewer system.

Roper has operated a central water system for many years. The system was upgraded recently and service is available to all residents.

Septic tank failures were so common in Roper that various agencies declared the Town to have a health hazard. Local citizens approved a bond issue of \$180,000.00 to be used as the local match for over one and a half million dollars in State and Federal grants for construction of a central sewer system. The system is expected to be in operation as of June 1980. Due to the extent of health hazards associated with septic tanks, regulations are expected to be enforced which will require the elimination of all such tanks within the corporate limits.

OTHER ISSUES IN ROPER

Types of urban growth desired were discussed under housing and economic development issues. The Town has not established policies to direct growth in a particular pattern.

Relevant federal and state regulations were listed on pages 42-45. Roper is committed to and endorses those state and federal programs which promote and regulate the best interest of the Town. The Coastal Area Management Act has been most valuable to the Town in developing plans and projects which improve the quality of living in Roper.

Beach nourishment, channel maintenance, waterfront access, beach access and tourism were not considered relevant. While tourism may have some impact on local sales, no specific policies were established to promote it.

RESOURCE PROTECTION ISSUES IN CRESWELL

ISSUE: Constraints to Development

Creswell's major constraints to development are health hazards caused by septic tank failures, flooding caused by wind tides and/or soil conditions.

The Washington County Health Department has estimated that over 80% of the septic tanks in Creswell are failing. A "201 Facilities Plan" has been developed to address this problem. A solution in the form of an innovative pressure sewer system is expected by 1984.

Flooding and poor drainage relates to the fact that two-thirds of the land area within the Town is below elevation 3 msl. During high yearly tides, 51 homes are flooded and a daily wind tide elevation exceeding 1.5 feet mean sea level will flood 25 years and most drainage channels.

Creswell's soils are in the Augusta-Altavista-Wahee series which are poorly drained with slow permeability and moderate shrink-swell potential. These soils are affected by tidal fluctuations which raise the water table to the ground surface.

GOAL: To reduce the impact of constraints to development.

POLICIES:

1. The Town Council will continue to pursue funding for a municipal sewer system. The first phase of a "201 Facilities Plan" has been funded and is near completion. Grant applications are being prepared which seek \$1,500,000.00 for construction of the system in 1981. Creswell citizens approved a \$200,000.00 local bond issue for sewer work by a vote of 91 to 12. L. E. Wooten and Company and Ivanfield Associates, Creswell's consulting and engineering firms, have been instructed to develop this project as the Town's number one priority.
2. Creswell has prepared (with the help of the U. S. Soil Conservation Service, Albemarle Resource Conservation and Development District and Coastal Area Management Act) a plan for flood prevention and drainage.

Much of the detailed survey and engineering work has been started by the Soil Conservation Service. The project has been approved by the U. S. Department of Agriculture under their Small Watershed Program (PL-566) for work as resources are available.

3. Participate in the National Flood Insurance Program.
4. A Mobile Home Ordinance which requires floodproofing of units placed in flood prone areas will be implemented during 1980. In addition the county has been authorized to enforce it's building codes inside Creswell's limits.

ALTERNATE POLICIES:

1. Let development occur without direction or regulation.
2. Encourage development to locate elsewhere to avoid local constraints.

ISSUE: Areas Of Environmental Concern

Creswell does not have any designated Areas of Environmental Concern within its jurisdiction. Since there are no plans for future designation, this issue was not considered.

ISSUE: Other Hazardous Fragile Land Areas

There are no hazardous or fragile land areas which are being considered for nomination as areas of environmental concern within Creswell's jurisdiction. Freshwater swamps and marshes, maritime forests, and man-made hazards were not identified as issues of concern.

Cultural and historic resources were not identified as specific issues in Creswell.

ISSUE: Hurricane And Flood Evacuation Plans

Creswell considers hurricane and flood evacuation planning to be a function of the County. As a matter of policy, the Town Council has gone on record as supporting and encouraging the funding of a County Civil Preparedness

Officer. When funds for this function were out from the County Budget in 1979, the Town Council instructed the Mayor to ask that they be reinstated. Local resources such as public buildings, equipment and town employees would be used to help the County Civil Preparedness Office with an influx of people evacuating the Outer Banks.

RESOURCE PRODUCTION AND MANAGEMENT ISSUES IN CRESWELL

ISSUE: Productive Agricultural Lands

Farming, with its use of large equipment and chemicals, represents a compatibility problem in a compact residential area like Creswell. The size of plots and proximity to housing will probably make the use of existing agricultural land unfeasible for long range crop production.

Since the County has adopted policies for the preservation of prime agricultural land, Creswell's existing farmland could best be used for development which might otherwise locate on prime rural farmland.

Productive agricultural and forest lands outside of Creswell are the most important economic factor for the town. As stated under the economic development section, growth of those industries related to agriculture and forestry is the town's first priority. While attempts will be made to expand economic activities, there is no desire to shift to a new economic base.

GOAL: To reduce compatibility problems caused by farming operations inside Creswell's Town limits.

POLICY: Encourage the conversion of agricultural land in Creswell to other uses such as residential, commercial, industrial and institutional in order to preserve prime farmland in the County. This encouragement will take the form of providing services and reducing constraints to development.

ALTERNATE POLICY: Since farming in rural towns is common, don't get involved with the issue.

Commercial forest lands, mineral production, fisheries and off-road vehicles were not considered relevant to the Creswell Plan. Peat mining was discussed as a specific mining issue which might affect Creswell, based on past experience with the First Colony Operation, it was felt that the possible impact did not justify planning and policy statements at this time. The Town may seek funds to study this issue if activity increases.

ECONOMIC AND COMMUNITY DEVELOPMENT ISSUES IN CRESWELL

Virtually all of the input received from the various public participation processes dealt with economic and community development issues. The following information is ranked in the order of priority established from public input:

ISSUE: Wastewater Treatment

As a result of citizen concern with this issue and the problems related to building a conventional gravity sewer system, a plan has been prepared for an innovative pressure system. This system utilizes septic tanks for collection and storage of waste. A sump pump is installed for each customer to pump liquids from the tank to a central lagoon system for treatment.

Policies and goals related to this issue were addressed under constraints to development.

ISSUE: Flooding and Drainage

This issue was considered by many citizens to be as important as wastewater treatment. A plan to install dikes, floodgates and pumps is being developed.

Policies and goals for this issue were also addressed under constraints to development.

ISSUE: Housing

Substandard housing and a shortage of assisted housing has been and is a severe problem in Creswell. The solution for a majority of these problems have been initiated by the Town Council.

GOAL: To reduce substandard housing and increase the assisted housing stock.

POLICIES:

1. The Town Council through the Creswell Community Development Department will complete a Community Development Block Grant Program during 1980-81.

CDBG funds of \$264,000 are being used to rehabilitate 16 substandard units. Ten dilapidated houses will be demolished. Several families are being relocated to mobile homes.

2. Work with the Mid-East Regional Housing Authority to meet the assisted housing needs in Creswell. Funding by the U. S. Department of Housing and Urban Development has been approved for the construction of 20 units of low income housing to be operated by the Mid-East Authority. Planning for this project should be completed in 1980 with construction to start in 1981.
3. Adopt and enforce regulations which improve the quality of housing. Subdivision Regulations, a Fair Housing Ordinance, Mobile Home Ordinance, and Building Codes are enforced in the Town.

Because of the limited resources of Creswell, much of the enforcement program must be provided through cooperative agreements with Washington County Officials.

ALTERNATE POLICIES:

1. Let individuals take care of their own housing needs.
2. Do not infringe on the private use of property.

ISSUE: Economic Development

Creswell's primary concerns are new jobs to stop the forced out-migration of young people and second family jobs for women. Citizens have indicated a preference for preserving the good qualities of a rural life style.

GOAL: To provide additional employment opportunities in the area, while preserving the present environment.

POLICIES:

1. The Creswell Town Council will promote a moderate growth rate for the area. New industries related to agriculture or forestry which can maintain existing air and water quality standards are the first priority.

By removing the physical barriers such as septic tank failures and flooding, it is believed that a moderate rate of growth will occur.

2. Support the activities of the Washington County Economic Development Commission to attract new industry. Their efforts to develop a county-wide water system has very strong support from the citizens, organizations, and governing body of Creswell. The Town has agreed to expand its system and provide water and related services for such a county system. In addition, proposed sewer services will be extended beyond the corporate limits.

ALTERNATE POLICIES:

1. Leave the entire burden of economic development to the County.
2. Promote any kind of economic development without concern for the quality of living.

ISSUE: Police Protection

Creswell enjoys a relatively good situation in terms of existing crime problems. Because of the lack of adequate police services, this situation could change very fast. The increase in efforts of surrounding area to improve their police services may tend to shift criminal activities to Creswell. The Town Council recognizes a real need to improve law enforcement services as a precaution.

GOAL: To improve law enforcement and crime prevention services.

POLICIES:

1. Implement existing agreement with Roper and Washington County to combine police services.
2. Join with Roper in seeking funds to expand the Washington County Sheriff's Department.
3. Continue to involve citizens, employees, and Town officials in crime prevention activities. While not participating in a formal Crime Watch Program, local citizens and Town employees have provided a very effective night watchman service when paid police officers were not available.

ALTERNATE POLICY:

1. Ignore the issue until it becomes a major problem.

ISSUE: Public Services

Even though Creswell is not adjacent to a developed urban area, the Town has taken on the character of a transitional area. Services will be required to support a relatively high density which resembles a developed area.

GOAL: To provide a quantity and quality of public services which will promote a moderate rate of growth.

POLICIES:

1. To continue to make municipal water service available to all property owners within Town and where density justifies, areas outside the corporate limits. Approximately 15% of existing water users are located beyond the corporate limits.

ALTERNATE POLICIES:

1. Only provide those services demanded by the public or required by law.
2. Leave the question of services outside the corporate limits to the County.

ISSUE: Recreation

While town residents did express concern for the lack of recreational opportunities, the Town Council was not able to provide resources to fund such programs as a Town function. A donation was made to the Community Schools program which will help with recreation.

CONTINUING PUBLIC PARTICIPATION IN CRESWELL

The Creswell Town Council will seek the widest possible public input in all areas of public decision making.

ISSUE: Public Education On Planning Issues

GOAL: To fully inform the public on planning issues.

POLICIES:

1. Creswell will follow its adopted Public Participation Plan in preparing notices and holding public hearings.
2. Public notices will be posted and distributed to provide information about planning issues.
3. All citizens are encouraged to attend Council meetings.

ISSUE: Continuing Public Participation In Planning

GOAL: To involve as many people as possible in planning Creswell's future.

POLICIES:

1. In appointing members of boards and committees, the Town Council will seek a cross-section of persons to represent all segments of the population.
2. Provide public service releases to the local media.

ALTERNATE POLICIES:

1. Let the public find out for themselves about planning issues.
2. Don't confuse the public with facts.

SPECIAL ISSUES IN CRESWELL

Creswell has been requested by the Coastal Resources Commission to address the specific issues of septic tank suitability, central water and central sewer systems.

The Town now operates a central water system with service available to every structure within the corporate limits. Approximately 35 County residents are also connected to the system. Health hazards associated with shallow wells on the same lots with septic tanks, caused the Town to adopt regulations requiring all occupied structures to connect to the central system. These regulations have been enforced.

An estimated 80% of all septic tanks in Creswell are failing. The Town Council is committed to solving this problem with the construction of a central sewer system. When this system becomes operational, regulations will be adopted to eliminate the use of septic tank drain fields.

OTHER ISSUES IN CRESWELL

Types of urban growth desired were discussed under other sections such as housing and economic development. The provision of public services is directed toward serving all sections of town. No attempt has been made to use policies to direct specific types of development to specific areas. The town has not established any particular patterns for development.

A REVIEW OF ROPER AND CRESWELL OBJECTIVES FROM THE 1976 LAND USE PLAN

In 1976 both Creswell and Roper set objectives relating to zoning and subdivision regulations. Both Towns have adopted subdivision regulations and have a zoning ordinance written which is being considered for adoption.

Since establishing housing related objectives in 1976, both Towns addressed the issue. Roper has completed a demolition project of substandard buildings and a 30 unit public housing project is scheduled for construction in 1980-81. In addition several new privately owned homes are under construction because of the towns efforts to build a central sewer system.

Creswell will complete a Community Development Project in 1980 which will result in the demolition of 10 delapidated houses and the comprehensive rehabilitation of 16 homes. This project is now 70% complete with many families occupying standard housing for the first time. In addition, Creswell has received funding and selected a site for 20 units of public housing. The Mid-East Regional Housing Authority will construct and operate the public housing units in both Roper and Creswell.

Roper has met its 1976 objective of securing a central sewer system and improving the water system.

Creswell has completed a sewer facilities plan which calls for the construction of an innovative pressure sewer system by 1983.

In 1976 both towns agreed to petition the county for increased police patrol service at night. While some improvement has been achieved, the problem remains a high priority in the goals established in this plan.

Even though Roper has worked toward the 1976 objective of improving storm drainage within the town, this problem continues to be of major concern. A

CAMA funded drainage plan has established goals and strategy for dealing with the problem.

Creswell's 1976 objectives to expand and publicize library and health care has resulted in the establishment of a weekly story hour conducted by the Pettigrew Regional Library. The Washington County Health Department is conducting a very successful Blood Pressure Clinic in Creswell.

LAND CLASSIFICATION

LAND CLASSIFICATION

Now, for discussion of the land classification system which is the means by which we use statistical data, population projections, development constraints, and community policies. Developed as a tool for guiding future activities, the classification system consists of five classes to be applied to geographic areas.

Developed - Lands where existing population density is moderate to high and have necessary public services.

Transition - Lands where local government plans to accommodate moderate to high density development during the next ten years and where public services will be provided.

Community - Lands where clustered mixed uses occur in rural areas and public sewer is not required.

Rural - Lands identified as appropriate for resource management and allied uses.

Conservation - Fragile, hazard and other lands necessary to maintain a healthy natural environment.

The Washington County Land Classification is in accord with the CAMA requirements and is shown on the Land Classification Map in the Appendix. To provide a more tailored system of classification for the County, the five land classes have been subdivided further, as discussed on Page 154.

The relationship between County policies and the Classification system is a very important one. Classification of areas should reflect County policies adopted by the governing boards.

Land Classification and Local Policies and Implementation

County policies promote dense development where public services are available. Consistent with this policy, the location of all developed and transition areas will be within the jurisdiction of the municipalities, with one exception. Creswell plans to service two areas adjacent to the Town and will probably

extend their jurisdiction to include these areas. The majority of the County's projected population within the next ten years can be provided for within the three municipalities of Roper, Creswell, Plymouth and surrounding areas, yet scattered residential development will continue to take place throughout the County. This is primarily due to the rural character of the County which the Board of Commissioners is committed to protect as reflected in their adoption of policies.

Preservation of existing communities is supported by the County's policies to seek housing assistance, and to service areas experiencing problems with public water. The communities designated as service areas and cluster areas will continue as moderate density mixed use areas in the future. With the installation of public water in designated community service areas, residential development may increase in these communities.

Industrial development in close proximity to the Towns is being encouraged by the purchase of an industrial site by the County on Highway 45, close to Plymouth. This sixty acre site, designated community transitional, can be utilized by several small industries. With the use of land close to our Towns for industrial use, County policies addressing energy and industrial development will be compatible.

Protection of undeveloped natural areas, designated rural natural areas, is supported by the County's efforts to ensure the conservation and protection of the natural and manmade environments and harmonize the relationship between the two. Natural areas adjacent to Lake Phelps, Albemarle Sound, and Bull's Bay are recognized as sensitive areas which should be protected. Development is expected to occur in these areas but the County has outlined parameters for this development within the classification system.

Concern for surface water quality expressed in the Community Issues Section is reflected in the classification of all surface waters as conservation. Past efforts by the Board of Commissioners to have Lake Phelps designated as an Area of Environmental Concern emphasizes their commitment to protect our Areas of Environmental Concern and other environmentally sensitive areas.

County Land Classification

Transition

The purpose of the transition class is to provide for future intensive urban development within the ensuing ten years on lands that are most suitable and that will be scheduled for provision of necessary public utilities and services. The transition lands also provide for additional growth when adequate lands in the developed class are not available, or when they are severely limited for development.

The only transition areas within the County's jurisdictions are along State Roads 1142 and Highway 64 east, emanating from Creswell. Future plans are to service these areas with sewer and water, according to Town representatives. Installation of a proposed sewer system in Creswell should begin in 1981. Other transition areas are located within the Town limits of Creswell and Roper.

Community

The purpose of the community class is to provide for clustered land development to help meet housing, shopping, employment, and public services within the rural areas of the County.

Community service areas - Designated service areas are in need of public water primarily due to poor water quality. These areas are moderately well developed and are proposed for water service by the County. These communities will be served in sequence according to the density, construction cost, and the number of residents requesting service.

Community cluster areas - These rural areas are characterized by a small grouping of mixed land use and are suitable for small clusters of rural development not requiring sewer service.

Community transitional - These areas connecting rural uses and community areas are lands which will eventually be converted to mixed use development. Characterized as rural, these areas have potential for development as community areas and are located in the northern sector of the County and around Creswell. Due to suitable soils and access to major roadways, they are potential industrial sites. Chances are these areas will have residential development in the years to come and more likely, some industrial development in the near future.

Rural

The purpose of the rural classes is to provide for agriculture, forest management, mineral extraction and other low density uses.

Rural residential - Areas with scattered residential development are located throughout the County. The majority of these rural residential areas are along State Roads and generally do not have commercial or industrial uses intermixed. Homesites range from 20,000 square feet upward and have onsite wells and septic tanks. Density to be encouraged in this area is one household per acres.

Rural natural area - Undeveloped shoreline areas within the County are considered sensitive and should be protected. Building development will most likely occur in some of these areas, but should take place in a manner which will preserve as much vegetation as possible. Lot size should be 20,000 square feet or larger to promote low density development, thus the impact on the natural environment and providing adequate space for onsite water and sewage disposal facilities.

Rural forestland - Lands with high potential for forestry resource management are included in this category. Large timber tracts which have significant value as renewable resources are shown in this rural classification. In general, the soils in these designated areas are poor for urban development, and in the case of the Conaby Creek and Bull's Bay tracts, the soils are saturated with water.

Rural agriculture - These designated areas include lands which are presently in agricultural production and will continue as such indefinitely. Areas to be mined for peat and then put into agricultural production are also included in this classification.

Conservation

The purpose of the conservation class is to provide for effective long-term management of significant limited or irreplaceable areas. This management is needed due to natural, cultural, recreational, productive and scenic values.

Areas designated conservation include surface waters such as Lake Phelps, Pungo Lake, Albemarle Sound, Scuppernong River, Mackeys Creek, Welch Creek, and Conoby Creek, coastal wetlands, swamp forest lands, historic sites, and government holding, such as Pungo National Wildlife Refuge and Pettigrew State Park. The Roanoke River is also a conservation area.

Roper and Creswell Land Classification

Developed

The purpose of the developed class is to provide for continued intensive development and redevelopment of existing municipalities.

Areas designated developed include the central areas of Roper which are densely developed and served by public sewer and water.

Transition

The transition class is for future intensive urban development within the next ten years, which will be provided necessary public services. When adequate land is not available in the developed class for additional growth, transitional areas are designed to provide for additional development.

Other than small conservation areas, the entirety of Creswell is considered transitional in nature. The northeast and southwest edges of Roper are also designated transitional. These are areas which are proposed for public services.

Conservation

The purpose of the conservation class is to provide for effective long term management of significant limited or irreplaceable areas.

School sites in both Towns and Kendricks Creek in Roper are designated conservation.

DATA ANALYSIS

APPENDIX

DATA ANALYSIS

Data concerning the Washington County area was collected from a number of sources, including various publications and indirect sources, such as conversations or meetings with staff members of many organizations and agencies, or other contacts concerning information about the area.

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







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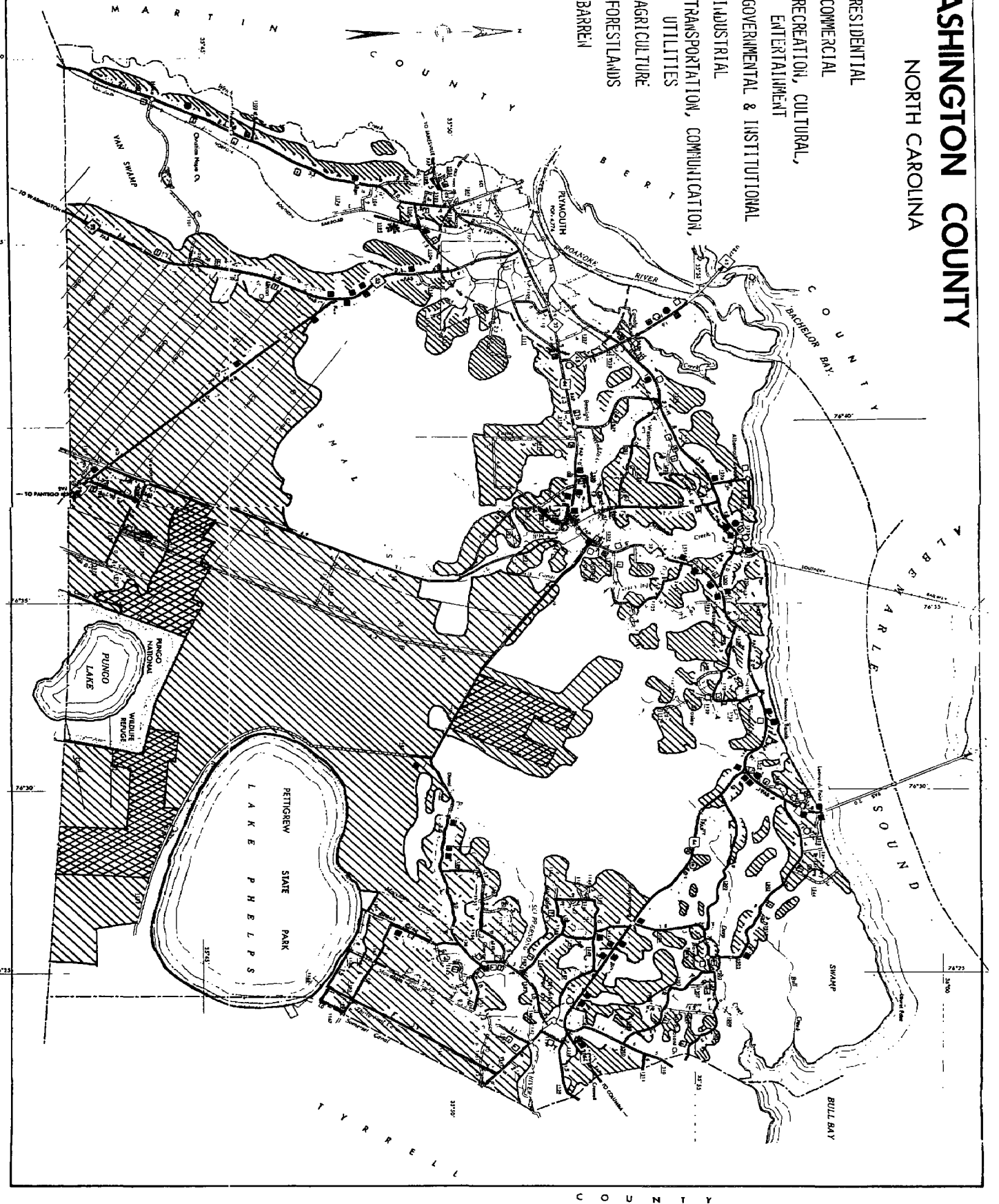
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WASHINGTON COUNTY












NORTH CAROLINA

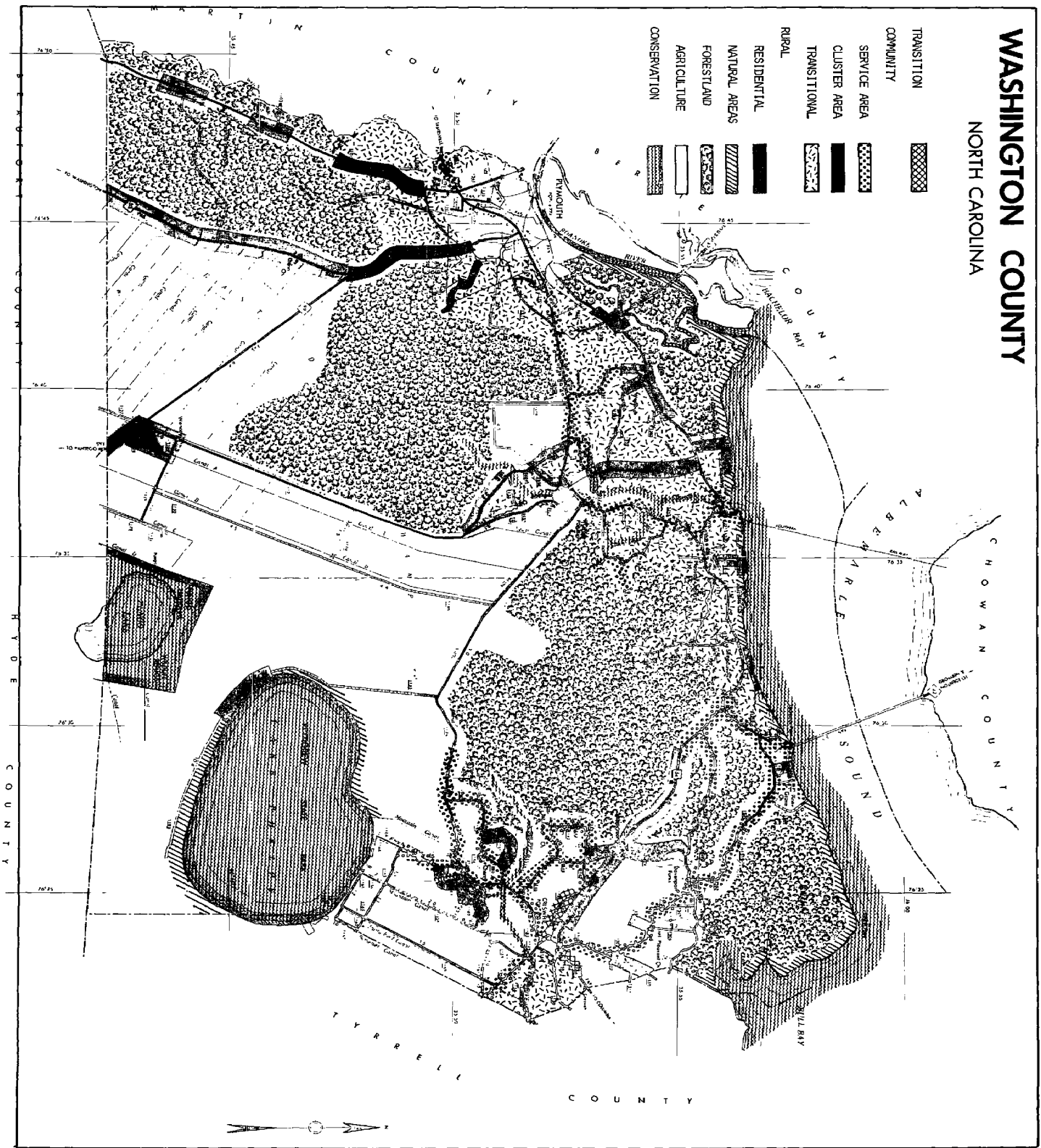
-  RESIDENTIAL
-  COMMERCIAL
-  RECREATION, CULTURAL, ENTERTAINMENT
-  GOVERNMENTAL & INSTITUTIONAL
-  INDUSTRIAL
-  TRANSPORTATION, COMMUNICATION, UTILITIES
-  AGRICULTURE
-  FORESTLANDS
-  BARREN



WASHINGTON COUNTY

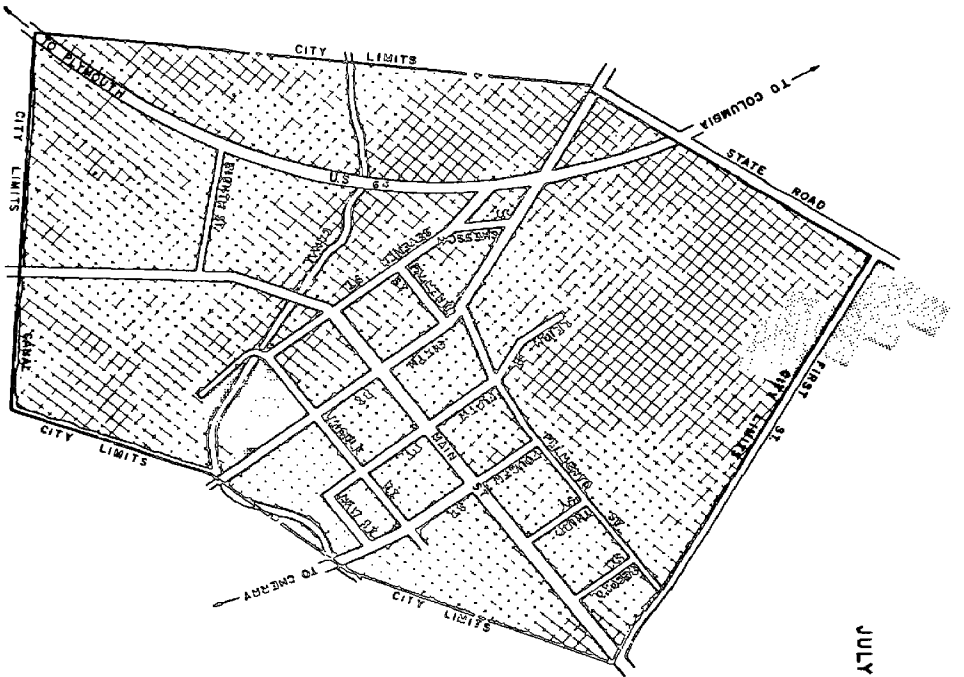
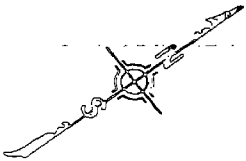
NORTH CAROLINA

- TRANSITION 
- COMMUNITY 
- SERVICE AREA 
- CLUSTER AREA 
- TRANSITIONAL 
- RURAL 
- RESIDENTIAL 
- NATURAL AREAS 
- FORESTLAND 
- AGRICULTURE 
- CONSERVATION 



CRESWELL NORTH CAROLINA

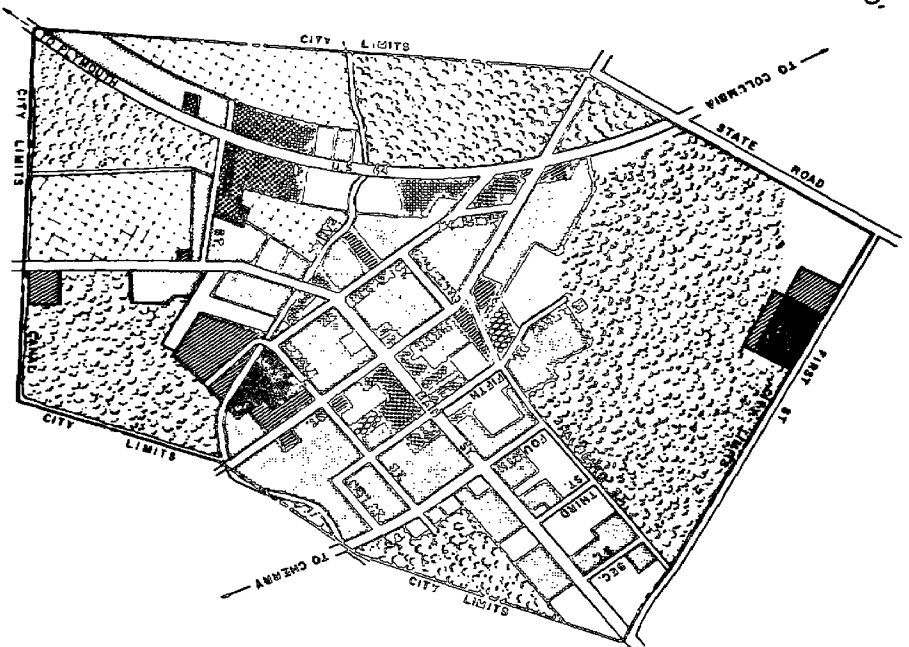
JULY 1980
SCALE: 1" = 800'



LAND CLASSIFICATION MAP
1980

LEGEND

TRANSITION
CONSERVATION



EXISTING LAND USE MAP
1980

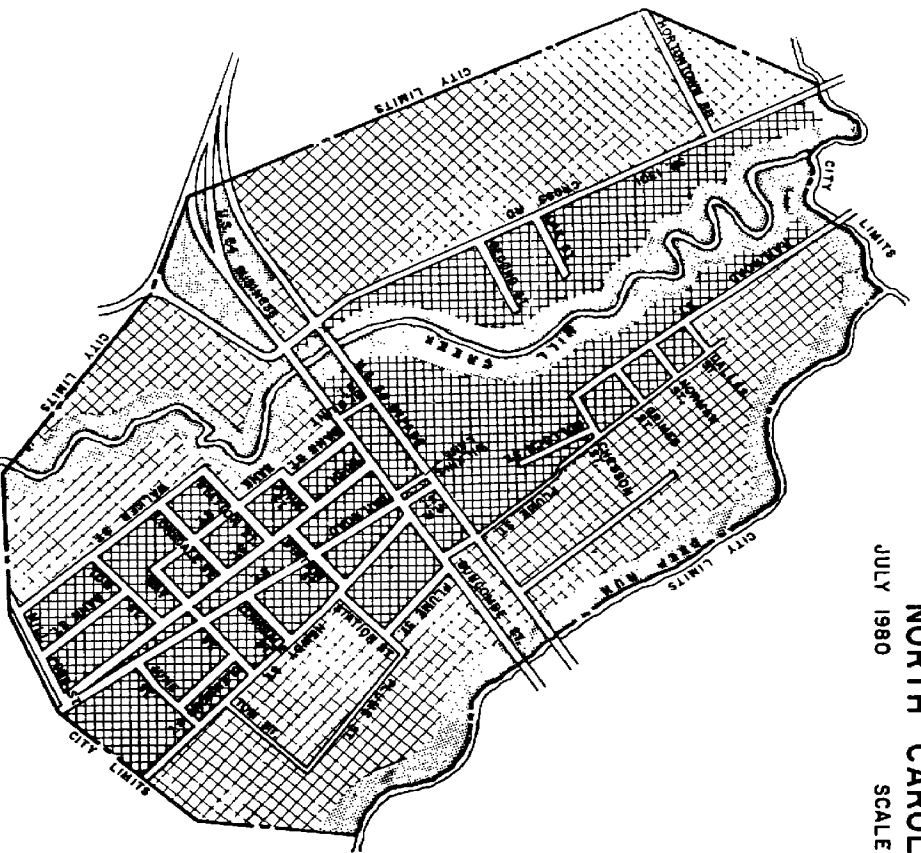
LEGEND

RESIDENTIAL
COMMERCIAL
UNDEVELOPED LAND
CULTURAL, ENTERTAINMENT & RECREATION

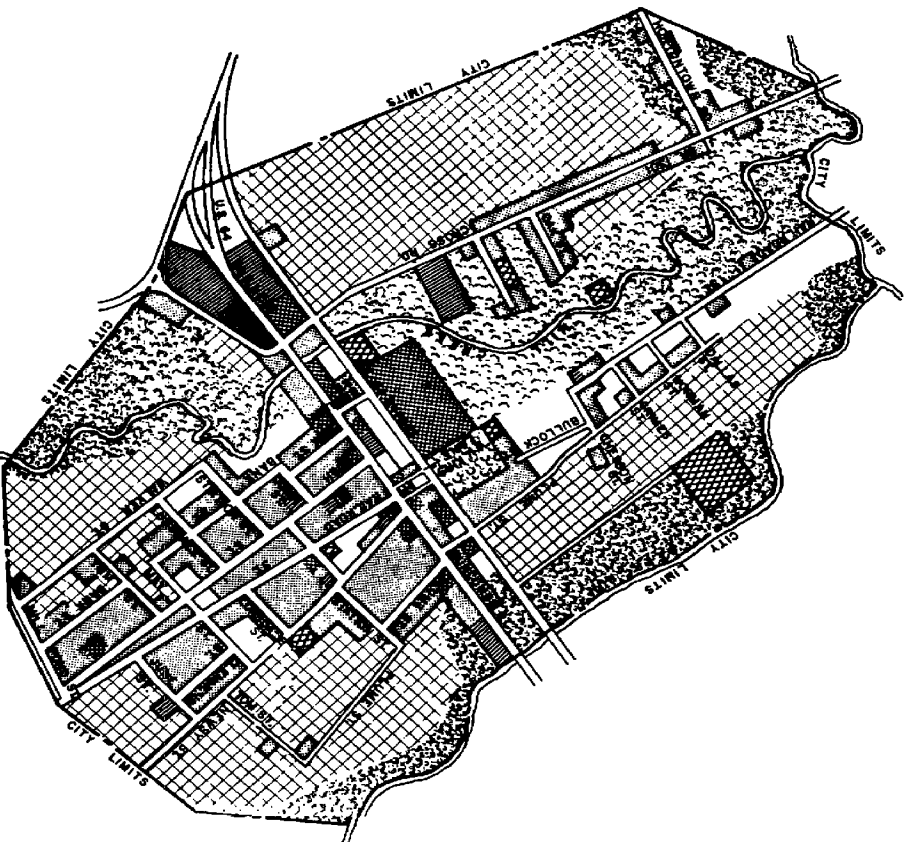
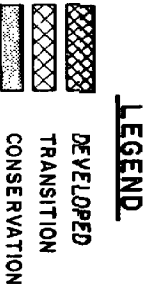
INSTITUTIONAL
AGRICULTURE
FORESTLAND
UTILITIES & COMMUNICATION

ROPER NORTH CAROLINA

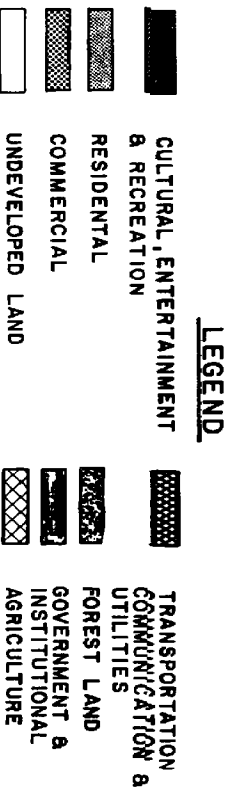
JULY 1980
SCALE: 1"=1000'



LAND CLASSIFICATION MAP
1980



EXISTING LAND USE MAP
1980



LAND USE PLAN
SLIDE PRESENTATION TEXT

Land development generally takes place as the result of a series of decisions by *private individuals and *government. If left entirely to chance, the *resulting pattern of development in a locality may well not be in the best overall community interest.*

In order to promote community interest for *both present and *future generations, a *Land Use Plan was developed and adopted by the Washington County Board of Commissioners in 1975. According to the Coastal Area Management Act this plan must be updated every 5 years.

The updated plan will consist *of four primary segments:

1. Data Collection
2. Community Goals
3. Land Use Projections
4. Land Use Classification

*Data collection includes the compilation of information relative to present population, land use, and economic trends.

Although generally ahead of most rural areas, *Washington County has experienced a small percentage of growth in the last 10 years. The majority of growth has occurred *around Plymouth, with *Roper and *Creswell experiencing a decline due to outmigration of young adults.

*Agriculture represents the largest part of the Countys economy and also is the major land use. *Although agricultural production has increased, *less farm labor is required due to mechanization. (Pause) *First Colony Farms represents the second largest single employer in the County. *Large scale land clearing technology make feasible by such corporate farms has contributed to increased farm production over the past 10 years. The significance of *large farm investments, suitable soils, and the higher unit prices derived, reinforce continuation of agriculture as the major land use in the area.

*Manufacturing production of apparel and wood products is the second major contributor to the County's economy with *Weyerhaeuser as the number one employer, *Plymouth garment #3-*Georgia Pacific and Williams Lumber Co. rank #s 4 and 5 as area employers.

Retail*trade located primarily in the*urbanized areas of the County, and* also scattered along major highways, comprises only 1% of the County's land use. Below the average of 6 surrounding counties, County sales suffer due to the close proximity of Washington, Williamston and Edenton.

*Residential land use in the County consists of *scattered single family homes and *mobile homes on individual homesites. Mobile homes have greatly increased in number in the last 10 years-the trend may continue until other affordable housing alternatives occur. The housing stock within the County is primarily standard but there are areas scattered through the County with *concentrations of substandard housing.

Second home development along the *Albemarle Sound and Lake Phelps is expected to continue as is the present *trend of the clustering of single family units around Roper and Creswell.

We have discussed the existing use of land, now we must address the land which may be developed in the future. When thinking about the future development of Washington County an analysis of *undeveloped land must be made. Four factors which may determine whether land can be developed are:

- 1st - physical constraints
- 2nd - fragile areas
- 3rd - areas of resource potential
- 4th - availability of public facilities

*First let's look at physical conditions which will affect future developments; for example *inadequate drainage-this is a problem which plagues the majority of Eastern North Carolina. Due to *the level terrain surface water runoff has no where to go at times *without man made drainage canals.

*Washington County has a large flood plain area where *Federal Flood Insurance is required and in some instances certain uses may be prohibited or must be built at higher elevations.

*Many soils in the County pose development constraints due to their *limitations. Building on these poor soils will many times *cause cracking foundations and malfunctioning septic tanks.

The only alternatives are to:

1. not build
- *2. or use public utilities where available

*New development must have *water. Ground water is the exclusive source of water for *municipalities, *farms and domestic use in the County. Although abundant the groundwater is generally hard and in need of treatment before consumption.

*The second factor which may *inhibit developemnt are *fragile areas. These areas were recognized in the Land Use Plan as areas which are important and should be protected.

*The Albemarle Sound and Bull's Bay, defined as estuarine waters, are among the most productive *natural environments in North Carolina.

*Historic places such as Somerset Place, Rehobeth Church, and the Cypress trees near Lake Phelps are also considered fragile areas.

*Lands such as Pungo National Wildlife Refuge that support *native plant and *animal communities should remain unchanged to support these natural processes.

Public Waters such as *Lake Phelps, Albemarle Sound and local creeks throughout the County should be carefully considered before development occurs in order to protect the *interest of the general public.

*Thirdly an identification will be made of areas with *resource potential which could easily be damaged or destroyed by inappropriate or poorly planned development. These can include *productive and unique agricultural lands; potentially valuable mineral sites and *publicly owned forests or parks.

*A 4th constraint which will significantly affect development is the capacity of *community facilities.

Roper, Plymouth and Creswell have existing* sewer and water service. These systems were designed for a specific capacity thus they will only be able to handle a certain amount of *growth without making additions to these systems.

The number and capacity *of schools must be reviewed and a determination made as to their life span.

*Roadways are designed for a certain amount of traffic-when this capacity is exceeded, plans must be made for *construction of new roadways or *existing roads must be improved.

We have outlined the proposed assessment of *present land use, *population, *economic trends, and the* constraints relative to development. Now we must look at the demand that will be placed on the County's resources within the next 10 years. Will we be able to handle projected population and economic trends?

When looking toward the *future in providing adequate space and facilities, *population is a primary consideration.

Projected population figures for a 10 year period were included in the original plan suggesting a moderately slow growth rate for Washington County.

Seasonal population which affects many other Coastal Counties more severely than Washington County is of the *"pass through" variety and does not contribute greatly to the County's economy.

*Expanded use of land reflects growth in population. A continuing trend in the County appears to be the *increase in land under cultivation. The use of *agricultural land for homesites is increasing somewhat, with the demand for waterfront property intensifying development along the Albemarle Sound *and Lake Phelps.

Future demand for *public services will be dependent upon the capacities of existing facilities in Roper, Creswell and Plymouth due to the widely scattered population of the County. This suggests several issues: should future development be guided to *Roper, Creswell and Plymouth? Can *they handle expected growth? What are the alternatives to *expanding public facilities within the Towns?

Future *growth may place great demands on *recreational facilities, *natural resources, *transportation network, and *public facilities. *In order to determine the capability of government to provide for the demands discussed, local governments will issue statements of local policy on those land use issues which will affect the community during the 10 year planning period. These policies will be a very important portion of the Plan. Three topics which governments are to address include:

1. AEC's
2. Resource Production & Management
3. Citizen Participation

CAMA regulations state that local governments are to discuss each of the *Areas of Environmental Concern located within its jurisdiction and are to list the types of land uses which it feels are appropriate:

1. What types of land uses should be allowed to develop along the *Albemarle Sound, Lake Phelps, Bulls Bay?
2. Should development occur in the *floodplain or on poorly drained soils?
3. Should industrial or commercial uses be allowed to encroach on sites of historical value?
4. How will mining peat directly adjacent to Lake *Phelps affect it? (HOLD)

After determining the types of land use to be encouraged or discouraged they must explain *what methods they will use to protect sensitive areas.

*The discussion of Resource Production and Management shall include the importance of *agriculture, *forestry, *fisheries, *and recreational resources to Washington County. How valuable are these resources? Is it important to protect them? How can they be protected?

*Thirdly, local governments must determine how they will *involve the public in the land use planning process and how they will *continue to solicit public input on land use issues.

*This is the reason for my being here - to solicit your comments and concerns on the issues discussed tonight. What types of residential, commercial, *industrial and institutional development should be encouraged? Where should they be located? Is it more beneficial to *redevelop older areas or to *develop new subdivisions or industrial parks? Are *existing facilities capable of servicing new development? If not what is the potential for establishing *new public support facilities? Should urban growth continue to develop around *existing urban clusters or *throughout the County? How important are *our natural resources? Last of all, what are *your family needs for the future?

*The culmination of this information gathering will be a *plan for future development in Washington County - a guide which will assist *local government and the *citizens of Washington in guiding future development. Hopefully, your input this evening will make this plan represent the needs of the residents of Washington County.

As a resident of Washington County, you have a responsibility to yourself and to your family to take an interest in the future development of the County. The update process is designed to assure the public an opportunity to voice concerns and desires relative to growth.

The County Planner is available to clubs and organizations to discuss this topic, share a slide presentation, and administer a questionnaire throughout February. Two public meetings will also be held on:

TUESDAY, FEBRUARY 26, 1980
IN CRESWELL AT 8:00 PM AT THE
CRESWELL MUNICIPAL BUILDING

THURSDAY, FEBRUARY 28, 1980
IN PLYMOUTH AT 7:00 PM IN
THE COURTROOM

Growth is occurring: as citizens we can let it continue on an unguided path, or we can try to steer it in a way that creates civic pride and requires less tax money to service. The choice and responsibility for good growth management is ours. It takes work--and revisions--but is almost always a good investment in time and money. Attend and participate in the public meetings. We hope you will help when you can--please participate.

WASHINGTON
COUNTY

landuse
plan
update

and develop in the next ten years? Should growth occur adjacent to existing municipalities, or throughout the County? Is it appropriate for commercial, industrial and residential uses to exist side by side? How can we protect our natural resources and continue to allow the County to grow? As a resident of Washington County, you have the right to express your concerns and needs relative to land use development. This opportunity is now available during the updating of the Washington County CAMA Land Use Plan.

WHAT IS CAMA?

In 1974, the N.C. General Assembly passed the Coastal Area Management Act, designed to protect the most sensitive and productive of North Carolina's coastal resources and to assist local areas with using these resources wisely.

CAMA authorized the development of land use plans in 20 coastal counties. Twenty coastal counties and 34 municipalities have written and adopted land use plans.

WHAT IS THE CAMA LAND USE PLAN?

The CAMA of 1974 establishes a cooperative program of coastal area management between local governments and the state.

Land use planning lies at the center of local government's involvement, as it gives the local leaders an opportunity and responsibility to establish and enforce policies to guide development of their community. These plans serve as a blueprint for

coastal area and provide guidance to state and federal governments making public investment decisions that impact population growth and economic development.

Each county and the municipalities within the coastal counties are encouraged to develop a plan which reflects the desires, needs and best judgement of its citizens.

The existing Plan for Washington County inclusive of Roper and Creswell was prepared in 1975 and adopted by local governments in 1976. The text includes:

- present land use, population and economy.
- constraints which may affect future development such as physical conditions, fragile areas, areas of resource potential and availability of public facilities.
- description of the land classification plan which will guide development.
- a list and description of areas considered Areas of Environmental Concern.

WHY IS THE PLAN BEING UPDATED?

The State guidelines require the Land Use Plan be updated every five years. The major purpose of periodic updating of the local land use plan is to identify and analyze emerging community issues and problems. The following objectives will be of major importance in the plan update:

- to further define and refine local policies and issues;
- to further examine and refine the land classification map and

- to assess the effectiveness of the existing land use and its implementation;
- to further explore implementation procedures; and
- to promote a better understanding of the land use planning process.

WHAT IS THE RESPONSIBILITY OF LOCAL GOVERNMENT?

Very simply, local government has a responsibility to plan. Elected officials bear a responsibility to plan and budget the County's resources for health services, drainage, and police and fire protection. All of these are a part of Washington County's public interest, and we expect our elected officials to define that interest and protect it.

Without a scheme to develop the County in an orderly fashion, the very features which make this area attractive may disappear under the kinds of growing pains now experienced along the Outer Banks. Clearly, more jobs, better services, an attractive community in which to live, and the efficient use of taxes--these needs of the people--will demand better planning and management in the future.

So this Plan is intended to be used in the future by the Board of County Commissioners, members of Town Councils and others in government, as a guide for making policy and adopting programs.

Information taken from:

HISTORIC and ARCHITECTURAL RESOURCES
of the
TAR-NEUSE RIVER BASIN
APPENDIX
for
REGION Q & R

Prepared By

North Carolina Department of Cultural Resources
Division of Archives and History

WASHINGTON COUNTY

1. Alexander House. N. end of SR 1319, Skinnersville vic.
Two-story Federal era house with double-shoulder chimneys. Private.
2. Arnold House. N. side SR 1316 at jct. with NC 32.
Leonard's Point vic. Early nineteenth century.
Two-story frame dwelling, three bays wide and two deep. Exterior end chimney, front shed porch and rear addition, Federal interiors, flush sheathing under porch. Private.
3. Ayres Farm. W. side SR 1329, 1.2 mi. S. of jct. with SR 1300, Westover vic. CA. 1892. Two-story frame building, L-plan. Exterior chimneys, six-over-six sash, eave returns, beaded tongue and groove sheathing. Entrances with sidelights. Private.
4. Belgrade. N. side of SR 1158, 0.3 mi. E. of jct. with SR 1159, Creswell vic. One-and-one-half-story frame Federal style house with gable roof and double exterior chimneys of Flemish bond; built about 1800; original simple interior trim remains intact; was home of "Parson" Pettigrew who was elected first bishop of the Episcopal church in North Carolina (but never consecrated). Private. SL.
5. Blount House. Faces Albemarle Sound, 1.5 mi. N. of SR 1324, Westover vic. Fine two-story frame center-hall plan Federal style dwelling with two exterior chimneys, built about 1800; wide porch on south side of house and ell constructed during Victorian era; interiors intact. Private. SL.
6. Bower Farm. E. side NC 32, 2.6 mi. S. of jct. with SR 1101, Plymouth vic. Two-story gable roof frame nineteenth century house. Exterior end chimneys one rebuilt, six-over-six sash with casement windows in gable end on right side. Private.
7. Chesson House. At N. end of SR 1320, Skinnersville vic. Nineteenth century. One-story frame dwelling; center-hall plan two room deep with later wing; original nine-over-nine window sash; interesting interiors include doors with unusual painted designs. Private.

8. J. A. Chesson House. W. Side of SR 1301, 1.0 mi. of N. of jct. with SR 1331, Roper vic. Two-story frame Federal dwelling with single-shoulder chimney with tumbled weatherings at each end; hall-and-parlor plan with late Victorian two-story ell added; stairway enclosed and attic floored. Private.
9. Will Chesson House. On N. side of US 64, 1.0 mi. W. of jct. with SR 1136, Skiddersville vic. Fine, large scale center-hall plan Federal era house built about 1820 by sea captain; vernacular interior. Private.
10. Joshia P. Davenport House. W. side SR 1141, 0.2 mi. S. of jct. with US 64, Scuppernong vic. Two-story frame Greek Revival farmhouse, three bays wide and two deep. Exterior end chimney, central entrance, front shed porch and rear addition. Private.
11. Furlough House. N. side of US 64, opp. jct. with SR 1119, Roper vic. Two-story frame dwelling built during the Federal era; unusually small windows at the second level; first floor altered. Private.
12. Garrett's Island Home. S. side SR 1112, 1.8 mi. E. of jct. with SR 1113, Plymouth vic. Built about 1750, probably by Daniel Garrett; small frame house with gambrel roof, shed dormers, and exterior brick chimneys; interior contains fluted mantel with paneled overmantel. Private. SL.
13. Harrison-Blount House. SE. corner of jct. of SR 1119 and 1122, Roper vic. Federal style center-hall plan dwelling with Victorian alterations. Probably built by James J. Harrison. Nearby is site of Lee's Mill, begun in 1702 by Capt. Thomas Blount, operated until 1921. Private. SL.
14. Holly Grove Plantation. Long drive on E. side of SR 1310, 0.1 mi. S. of jct. with SR 1311, Creswell vic. One-story cottage with gable roof and front shed porch. Nine-over-nine sash on first level, six-over-six on second. Exterior end chimneys, Federal and Greek Revival elements in interior. Private.

15. Homestead Farm (Hassell House). SW. corner of jct. of US 64 with SR 1120, Roper vic. Original two-room frame Federal style farmhouse built about 1800, later two-story front portion Private.
16. House. Private road on W. side of SR 1137, 0.3 mi. S. of jct. with SR 1136, Pleasant Grove vic. Two-story frame mid-nineteenth century house, three bays wide with gable roof. Front hip roof porch, interior chimneys, six-over-six sash, central entrance. Private.
17. Jackson House. W. side SR 1100, 0.5 mi. N. of jct. with SR 1101, Hoke vic. Main block is a two-story center-hall weatherboarded frame dwelling, three bays wide and two deep. Gable roof on main house, shed porch along front, two exterior end double-shouldered and stepped brick chimneys. Kitchen had exterior end single-shoulder mud and stick chimney, now gone, one of very few known standing recently in North Carolina. Private.
18. Johnson-Swain House. S. side of SR 1111, 0.7 mi. E. of jct. with SR 1113, Plymouth vic. Two-story frame house with large double-shouldered brick chimney. Private.
19. Mockingbird Hill Cottage. S. side of end of SR 1151, Cherry vic. One-story and attic frame cottage, mid-nineteenth century. Gable roof with full length shed porch, replaced end chimney. Private.
20. Morattuck Church. N. side of SR 1106, 0.8 mi. E. of jct. with SR 1105, Plymouth vic. Congregation established in 1785. first building burned and was replaced by the present structure built in 1865; one-story frame gable roof building, two bays wide and four deep. Abandoned and deteriorated. Private.
21. Nichols-Vale House. N. side of SR 1111, 0.8 mi. SW. of jct. with US 64, Plymouth vic. Ca. 1800. Two-story frame Federal style house, center-hall plan; exterior double-shouldered chimneys. Private.
22. Ephram Pritchett House. E. side SR 1303, at jct. with SR 1308, Creswell vic. Two-story frame dwelling with double tier front porch with shed roof. Three bays wide, two deep, exterior end chimneys, later rear addition. Second half nineteenth century. Private.

23. Rehoboth Church. S. side of US 64, 0.4 mi. W. of jct. with SR 1317, Skinnersville vic. One-story frame temple-form church completed in 1853; said to have been constructed and finished by slaves of J.S. Norman who donated the land. Private. NR.
24. St. David's Chapel. SE corner jct. of SR 1158 and 1159, Creswell vic. Original portion of this frame church was built in 1803 by the Reverend Charles Pettigrew of Belgrade and known as Pettigrew's Chapel; building altered in 1857 after a design by Richard Upjohn and in 1858 reorganized under the name of St. David's Chapel. Private. SL.
25. Somerset Place State Historic Site. N. side of Lake Phelps, just S. of jct. of SR 1167 and 1168, Creswell vic. The plantation itself was developed in late eighteenth century with a vast system of canals, draining swampland and providing irrigation for early rice crops. The machinery there, very advanced for the period, was widely admired. Slaves brought direct from Africa late in eighteenth century retained their African culture to a remarkable extent. House, outbuildings, much of canal system remain. The house, built for Josiah Collins III about 1830, is one of the best extant examples of coastal plantation houses of the period. State Historic Site. Public. NR.
26. B. F. Spring Farm. N. side SR 1126, 0.3 mi. E. of jct. with SR 1149, Cherry vic. One-story frame cottage with gable roof and engaged front shed porch and rear shed. Beaded siding, brick exterior end chimneys. Typical small nineteenth century dwelling. Private.
27. Dewey Spruill House. Long Drive on S. side of SR 1163, 0.1 mi. E. of jct. with SR 1162, Cherry vic. Two-story mid-nineteenth frame dwelling three bays wide, six-over-six-sash. Exterior end chimneys, single-stepped shoulders. Much original interior fabric intact, deteriorated condition. Private.

28. Winfield Spruill House. N. side SR 1300, 0.2 mi. W. of jct. with US 64, Pleasant Grove vic. Two-story frame dwelling, three bays wide and two bays deep. Central entrance, gable roof, two exterior stepped double-shoulder chimneys, nine-over-six sash. Enclosed stair, much original fabric. Deteriorated. Private.
29. Swanner-Lamb House. Jct. of SR 1318, 1319, and 1320. Skinnersville vic. Mid-nineteenth century two-story frame house, wide shed front porch and enclosed rear shed. Private.
30. Thompson House. SE. side SR 1119, 0.5 mi. SW. of jct. with SR 1120, Roper vic. Simple two-story frame Federal house; unusual is the New England type saltbox form, rare in North Carolina. Private. SL.
31. Walker House (Harrison House). On E. side SR 1119, 0.4 mi. N. of jct. with SR 1120, Roper vic. Saltbox type dwelling with exterior chimneys and unusually high water table; said built by retired New England sea captain. Private.
32. Westover Plantation. S. side SR 1300, 0.3 mi. W. of jct. with SR 1329, Westover vic. A two-story, three-bay frame structure in the Greek Revival style. A one-story porch covers the center bay. Numerous outbuildings. Private. SL.

CRESWELL

33. Creswell Commercial Buildings. Creswell. Cohesive group of late nineteenth century, early twentieth century commercial structures, mostly frame with gable fronts. SL.
34. Houses. Collection of mid-through late nineteenth century and early twentieth century frame structures showing Greek Revival and Victorian influences. Many ornamental porches. Private.

PLYMOUTH

35. Armistead House. 302 W. Main Street. Mid-nineteenth century. Two-story frame dwelling, five bays wide with exterior end chimneys, Greek Revival interior detail. Private.

36. Addie Brinkley House. 201 E. Main Street. Handsome two-story Victorian house with bracketed eaves, other ornament. Private.
37. Dave Brinkley Cottage. 212 Jefferson Street. Mid-nineteenth century. One-story frame cottage, central entrance with transome and side-lights. Front shed porch with turned posts, interior end chimney, later addition at rear. Private.
38. David Clark House. 219 Jefferson Street. Built ca. 1811. Two-story frame side-hall-plan Federal style dwelling. Private.
39. Fort Williams. N. side of 1325, opp. jct. with SR 1342. Site of Confederate fort captured by Federal troops early in Civil War and recaptured by Confederate forces in April 1864. Private.
40. Grace Episcopal Church. SW corner of Madison and Water Streets. Established 1837; constructed after plans drawn by Richard Upjohn; brick Gothic Revival structure completed 1861. Private. SL.
41. Hampton Academy. Across from 109 E. Main Street. Two-story brick building with hip roof and front cross gable, round arched window surrounds. Private.
42. Hornthall House. 108 W. Main Street. Two-story frame house with hip roof intersected by cross gables with sawn bargeboards and finials. Recent two-story porch and altered central entrance. Late nineteenth century. Private.
43. Latham House. 311 E. Main Street. Ca. 1850. Two-story center-hall plan frame dwelling; Greek Revival style with bracketed cornice. Built by Charles Latham, lawyer, state legislator and sheriff. Private. SL.
44. Nichols House. 220 Washington Street. Ca. 1804. Two-story center-hall plan frame Federal style dwelling. Altered. Private.
45. Plymouth Depots (Passenger and Freight). Four one-story gable roof structures, two of brick and two of frame. Typical early twentieth century railroad buildings. Private.

46. Plymouth United Methodist Church. SW. corner of 3rd at Adams Street. One-story brick veneered gable end church, one-by-five bays. Two-story central bay tower. Built ca. 1832, brick veneered 1932. Congregation founded in 1832. Private.
47. Spruill House. 326 Washington Street. Late nineteenth century, story-and-a-half cottage ornee. Frame structure with a hip roof intersected by cross gables. Sawnwork, interior chimneys and an ornate finial. Private. SL.
48. Stubbs House. Winesett Circle. Ca. 1830. Large two-story Greek Revival frame dwelling. Porch recent. Private.

ROPER

49. Roper Commercial District. Small late nineteenth-early twentieth century commercial district with brick and frame structures. Similar period frame houses, forming a homogeneous townscape.
50. Downing-Spruill House. N. side US 64, 0.1 mi. W. of jct. with SR 1301. Two-story Federal period house with hip roof. Private.
51. Hebron Methodist Church. N. side Buncombe Avenue, opp. jct. with Bunk Street. Greek Revival era structure built in 1842. Private.
52. Mizell-Lewis House. NW. side of Buncombe Avenue, just SW. of Deep Creek. Greek Revival era dwelling constructed about 1850 by Anson Mizell; interior chimneys, pedimented gable ends. Private.
53. St. Luke's Episcopal Church. E. side Bush Street between John Street and Buncombe Avenue. Early twentieth century. Small frame church with pointed arch windows, entrance tower with belfry. Private.

Note: N.R.-National Register Properties
S.L.-Cultural Resources Study List

